Assessment of agricultural information needs in African, Caribbean and Pacific (ACP) States for CTA's Products & Services

Phase 1: Pacific

Country report: Samoa

Final report

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on behalf of the

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Acronyms and abbreviations

ACP	Africa, Caribbean and Pacific
ALO	Agricultural Liasion Officer (IRETA)
APSA	Asia Pacific Seed Association
ARDIN	Agricultural and Rural Development Information Network (IRETA)
CABI	CAB International (*previously Commonwealth Agricultural Bureaux*)
CEO	Chief Executive Officer
CSIRO	Commonwealth Scientific and Industrial Research Organisation (Australia)
CTA	Technical Centre for Agricultural and Rural Cooperation
FAO	Food and Agriculture Organization of the United Nations
FAO-SAPA	FAO Sub-Regional Office for the Pacific
GDP	Gross Domestic Product
IPM	Integrated Pest Management
IRETA	Institute for Research, Extension and Training in Agriculture (University of the South Pacific)
ISP	Internet Service Provider
IT	Information Technology
MAFFM	Ministry of Agriculture, Forests, Fisheries and Meteorology
MOU	Memorandum of Understanding
NGO	Non Government Organisation
NUS	National University of Samoa
NZ	New Zealand
RRF	Regional Resource File (IRETA)
SCAINIP	Standing Committee on Agricultural Information Networking in the Pacific
SOA	School of Agriculture (University of the South Pacific)
SPC	Secretariat of the Pacific Community (*previously South Pacfic Commission*)
SPREP	Secretariat of the Pacific Regional Environment Programme (*previously South Pacific Regional Environment Programme*)
TLB	Taro Leaf Blight
USP	University of the South Pacific
WST	Samoan *tala* (currency)

Rate of exchange

The rate of exchange used is 1 euro = 3.4656 Samoan tala (published European Commission exchange rates for August 2004).

Executive summary

Introduction

The work carried out in this report assessed the agricultural information needs in Samoa as part of a wider assessment of needs in Africa, Caribbean and Pacific (ACP) states. The study is an initiative of the Technical Centre for Agricultural and Rural Cooperation (CTA) in an effort to improve the access to agricultural information, generation and management of agricultural information needs in these countries with the view of developing their own information and communication management strategies.

Objectives

Since CTA works mainly through intermediary organisations and partners to promote agriculture and rural development, the identification of appropriate partners is crucial for success. Identification of information needs of potential partners for CTA and their capacity building needs in information and communication management were also important objectives. Development of data for monitoring activities was also part of the study.

Methodology

The study uses three guides, namely, 'a data capture form", an "annexes form(s), and a "report writing guide".

The data capture form contains the list of required information to be captured or obtained from institutions, targeted people and groups. The form is filled during the interviews carried out with appropriate institutions, people, groups involved in the agricultural and related fields e.g. data about institutions (passport data), linkages and collaboration (e.g. CTA and others), information management (e.g. problems, needs, type, etc.). The form was used to obtain information from 20 interviews carried out during the study. The interviews covered academic, research, extension, agricultural and quarantine institutions. A few non-government organisations (NGOs), private sector, women's groups as well as people from the development bank, chamber of commerce and industry, and telecommunications and Internet Service Providers (ISPs) were also interviewed. Interviews were also conducted with representatives of libraries and regional organisations.

Information for the annexes was obtained from various publications and was used in the report as well. All the information obtained were organised following the format recommended to ensure uniformity of reports from the Pacific team.

Expected outputs

One main report on the assessment of agricultural information needs in Samoa, according to the table of contents set out in the Terms of Reference. Annexes are also to be produced according to the format set out in the Terms of Reference to form part of the report. In addition, it is expected that the results of this study will lead to identification/update of some priority agricultural information themes which will feed into a possible priority-setting exercise in the Pacific in 2004.

Findings

The findings indicated that a few institutions know about CTA and its work in the information area. The extent of collaboration with CTA also differs between these

institutions. The Institute of Research, Extension and Training in Agriculture (IRETA) collaborates extensively with CTA, receiving many publications and is involved in seminars, co-seminars, training and seminar support programmes. IRETA has conducted joint seminars and workshops with CTA, all very successful. IRETA also collaborates extensively with other institutions besides CTA. Management of information is good but help is needed in the areas of organic farming, soil taxonomy, fisheries, food security and disaster preparedness. However, capacity building in computer operations for publications, video production and equipment maintenance is required.

The University of the South Pacific (USP) School of Agriculture (SOA) is aware of CTA's work in the area of information but obtains publications indirectly from IRETA. It obtains information mostly from overseas organisations by purchasing books and other material recommended by staff and students. Information management is excellent since staff are well trained. However, it could benefit from closer collaboration with CTA. Comments from students state that in general information needs of students are not met adequately, since much needed agricultural information is not available. The cost of obtaining these may be a factor.

The Ministry of Agriculture, Forests, Fisheries and Meteorology (MAFFM) does have links with CTA through seminars, training programmes and seminar support programmes mainly and indirectly through IRETA programmes. No publications from CTA have been available to MAFFM. However, MOA collaborates extensively with local and overseas organisations and has strong links with SOA. Information needs include organic farming, marketing information, post-harvest and value adding information. MAFFM also need capacity building in publications' production, videos, and radio and television programmes production. Capacity in information technology is also required.

Non-government organisations (NGOs) generally do not know about CTA. Most receive information from IRETA, SOA, Food and Agriculture Organization (FAO), MAFFM and others. Needs range from organic farming, floriculture, vegetable production, food processing and agribusiness. The main problem is the lack of quality information.

The private sector needs are more specific: information on organic farming techniques and certification of produce for export is needed by a growing number of organic farmers, including women. Other private sector organisations are interested in the production and processing of root crops (especially cassava) into flour and other products. Information on the production of coffee, cocoa, kava and commercial crops in general is required. The main problem besides lack of reliable information is the lack of finance to develop agribusiness enterprises. The development bank offers loans for selected farmers but a business plan (by farmers) may be required. The chamber of commerce and industry can also assist with agribusiness development.

Communication in Samoa is expensive as few companies deal with communication. Internet is also expensive despite the growing number of computers in Samoa. Only those who can afford it reap the benefit of modern technology. The cost of accessing the Internet in Samoa is very high because of local telephone charges, not so much the cost of dial-up access to the Internet. The cost of 10 hours dial-up Internet per month (samoa.ws) is WST 19.50 (EUR 5.63).

Conclusions

From the results of this exercise, the following conclusions can be made:

- CTA is known only to large institutions; it may be that the interviewee is not able to differentiate between CTA and IRETA, and if asked if they are aware of what IRETA is doing, the response will be positive.
- The range of services and products from CTA is generally not known in Samoa
- Where this is known, only a few institutions benefit through receipt of products and services
- The extent of collaboration with CTA seem dependent on the similarity of work with CTA
- Large institutions and organisations seem to benefit more from CTA than the smaller organisations
- Private operators and exporters are not benefiting as much as they should from CTA, perhaps because they operate indirectly through larger institutions.
- Women organisations have little links with CTA
- IRETA and the SOA seem to benefit more from CTA, perhaps due to their size, capability and ability to forge links with organisations working in related areas.

There is a great need for agricultural information in Samoa, especially in the smaller organisations, women's groups, private sector and grassroots levels. Agricultural and rural development depends on this unreached sector which forms about 77% of the population (Annex 2.2.1) and contributes significantly to the economy of the country. The necessary information from CTA for example seems only to be available to larger institutions and must be made available to the users for information to translate into development. IRETA is doing well in providing information for agricultural development in Samoa (and the Pacific). But it appears that there is room for improvement since the majority of institutions have significant information needs (and appear unaware of CTA). However, a shortage of manpower, infrastructure and lack of skilled staff, especially in the area of information is a constraint. This may be due to a lack of policy guidelines in the information area. The following is therefore recommended to address the problem of information availability and use.

Recommendations

IRETA should be strengthened as a main partner of CTA in the Pacific in terms of capacity building and information acquisition, for example, by study visits (to CTA) to study information technology and information management, but the following need to be carried out to improve the flow and use of information:

Staff shortage in pertinent information areas should be addressed in IRETA, and key institutions (listed), for example, trained computer literate publications' editors. This is perhaps an IRETA issue but CTA may provide advice and guidance:

- Staff training in the areas of information technology and video production should be strengthened in IRETA and key institutions.
  A way of targeting the grassroots' operators should be sought, perhaps by IRETA collaborating with MAFFM and other appropriate institutions to target needed areas identified by target groups.

- CTA to establish indirect links to other institutions as well in providing information relevant to them through partners (e.g., IRETA and key institutions)
- CTA and partners to establish information network with relevant institutions in Samoa through partners. This can only happen through local stakeholder initiative and

involvement and these must be sought and encouraged, perhaps through meetings and workshops.

- CTA and partners to establish direct links to the NGO Women in Business to provide needed information on beekeeping and honey production, organic farming and certification of organic produce, spice production (e.g. vanilla, black pepper) and nonu (*Morinda citrifolia*).
- CTA to establish direct links with key institutions to provide them with relevant agricultural information as well as advise on capacity building.

1. Introduction

1.1 Background

The study is the initiative of CTA whose tasks are to develop and provide services that improve access to information for agriculture and rural development, and to strengthen the capacity of ACP countries to produce, acquire, exchange and utilize information in this area. In the case of Samoa, the agricultural and rural sector remain the backbone of the economy and also provide the livelihoods of the people, 77% of which is in the rural areas and practise mainly subsistence agriculture (Ministry of Finance Report, 2004). About 13% are commercial/semi-commercial farmers, and 10% are employed by Government and other organisations. The employed few (10%) provide the pertinent information, but lack the capacity to produce, acquire, exchange and ensure that the information is utilized by the agricultural and rural sector. The result is a stagnant agriculture and rural development. This is where CTA could assist since it is the centre of excellence in its programmes, Information Products and Services, Communication Channels and Services, and Information and Communication Management Skills and Systems. These programmes are supported by the Planning Corporate Services, charged with the methodological underpinning of CTA's work and monitoring the ACP environment in order to identify emerging issues and trends and make proposals for their translation into programmes and activities.

Since CTA works mainly through intermediary organisations and partners (non-government organizations, farmers' organizations, regional organizations) to promote agriculture and rural development, it is seeking partners in the Pacific to address the chronic problem of information availability/non-availability and use by the agricultural and rural sector to move the countries out of stagnation and into real development. The identification of appropriate partners is therefore very important. It was also felt that the Pacific and Caribbean regions have not received sufficient attention in CTA's programmes and activities. In addition, various national and regional partners with whom CTA has had a long-standing relationship have requested the current study in order to promote more targeted assistance to their beneficiaries, hence this study for the Pacific and specifically for Samoa with well-defined objectives.

1.2 Objectives

- To identify agricultural information needs of key actors/beneficiaries for CTA products and services;
- To identify needs of potential actors/beneficiaries of CTA activities and services in terms of building capacity for information and communication management,
- To identify potential partners/beneficiaries for CTA activities and services,
- To develop some baseline data to facilitate subsequent monitoring activities.

The findings will help the three operational departments of CTA and its local representatives to improve and better target interventions and activities aimed at potential partners and beneficiaries (including women, youth, private sector and civil society organizations); to have a more informed picture of their needs and aid in the elaboration of a strategy and framework of action. The study should also highlight where there are specific needs for CTA products and services, thereby enabling improvement in the delivery of the same. The study should also help Samoa improve its information services capacity and skills so that pertinent information for agriculture and rural development reaches the target groups to ensure progressive development. The terms of reference for this study are in Annex 1.

1.3 Methodology

A combination of qualitative and quantitative rapid appraisal methods was used and included the following:

- a desk review of available literature and information sources including the findings of programme evaluations;
- the conduct of face-to- face interviews with relevant stakeholders and concerned parties;
- the use of questionnaires.

2. Country profile

The section consists of a summary of the structure and economic characteristics of Samoa with emphasis on the agricultural sector which also include fisheries and forests.

2.1 Agriculture, Fisheries and Forestry

The agricultural sector is the backbone of the economy and livelihood of the people, together with fishing. About 80% of the population is in the agricultural sector which is also the biggest employer. Agriculture and fisheries provide the main exports of the country, together with forestry and are grouped together under one ministry, the Ministry of Agriculture, Forests, Fisheries and Meteorology (MAFFM). The Ministry is responsible for the sustained production of agriculture, forests and fisheries activities and to inform the public of climate and weather patterns affecting their activities, including the issuing of cyclone and strong wind warnings. This Ministry is the backbone of agriculture and rural development in Samoa. It carries out research on how best to produce crops and livestock for export and local consumption and makes the results available to producers so that maximum production and quality is maintained. The same applies to fisheries.

The Minister, CEO and Assistant CEOs are mainly administrative, while the senior officers, officers and field officers are mainly operational. The Quarantine department ensures that no pests and diseases enter the country. Crops, research and propagation are responsible for the production of important crops and improvement in production and quality. The extension department ensures that the results of research reach the target groups (mostly farmers, women groups and youth). The forestry department ensures that the sustainable use of forest resources, the fisheries, fisheries resources, and the livestock department, the production of meat. The observatory is of course responsible for weather forecasts on which all activities depend.

2.1.1 Agriculture

From a survey (Government of Samoa, 2000), 77% of households were classified as agriculturally active (Annex 2.1); 50% of these are males, the other 50% are females. About 80% of the agricultural population is adult male, 10% female and 10% youth, is engaged in agricultural production. Agriculture's (includes fisheries and forestry) role as the mainstay of the economy is shown by the fact that in 2002, it contributed around 56 million tala (16.16 million euro) to GDP as opposed to 100 million tala (28.86 million euro) for manufacturing, 23 million tala (6.64 million euro) for tourism, 71 million (20.49 million euro) for public administration, and 48 million (13.85 million euro) for construction. Agricultural systems include tree crops systems, other crops, tree and other crops, fallow systems, bush/forests systems, livestock and many others. The main systems are agroforestry and mixed cropping. Total number of land parcels used for agriculture is 38,414. Of these, 19,385 are under subsistence farming, 16,160 under semi-commercial farming and 2,868 under commercial farming. Average size of parcel is 2–4 ha (Annex 2.1.2). Types of farming practised include, commercial farming (10% of arable land), subsistence farming (50% of arable land), semi-commercial farming (10% of arable land) and forestry (30% of arable land).

2.1.2 Fisheries

The fisheries sector is smaller in size with about 50% of the population active in it, mainly men, since Samoa has a comparatively small exclusive economic fisheries zone.

Fishing contributes 71 million tala (20.49 million euro) to the GDP in 2002 (Annex 2.1.4), more than agriculture. Fresh fish export contributed 29 million tala (8.37 million euro) in 2002 (Ministry of Finance Report, 2004). Types of fishing range from deep water fishing, tuna/pelagic fishing, reef fishing and figota fishing (Annex 2.1.5, tables 15 and 16)

2.1.3 Forestry

Forestry is the concern of about 30% of the population and livestock about 40%. The structure of the division is similar to that of fisheries and agriculture. Total number of households that planted forest trees are: Asi (1,208 households), Ifilele (1,229), Malili (1,018), Talie (1,018), Tava (1,834), Titi (1,037), Poumuli (16,559), Mahoki (881), Others (147). The department is comparatively small but is contributing significantly to the economy. Systems of production include pure stands and agroforestry.

2.2 Other Government departments

Other Government departments concerned with agriculture and rural development in Samoa are as follows:

2.2.1 Broadcasting Department

This Broadcasting Department is responsible for radio and television broadcasts to the nation of important news, advertisements and entertainment items. Education and cultural items, agricultural, environmental issues and concerns are also shared through proper media from this Department. Agricultural programmes on TV include interviews with successful farmers, demonstrations of production techniques of crops, and promotions of potential crops such as nonu and kava. Similar radio programmes are aired. These have contributed significantly to information availability and dissemination which has resulted in the adoption of improved agricultural practices and increased productivity and quality of crops for export and local consumption, thus generating much needed foreign exchange and rural development. The Department comprises a CEO, Assistant CEOs, senior officers, officers, field staff and clerks/typists.

2.2.2 Customs Department

The Customs Department ensures that imported items are properly documented and taxed on arrival and vice versa for exported goods which include agricultural produce. The Department ensures that taxes on agricultural exports are reduced to encourage increased export and tax on imports are such that the country is able to protect its agricultural sector from competition.

2.2.3 Education Department

The Education Department is responsible for the education of the public of Samoa to ensure that it is of high standard and well resourced. There is a university, a polytechnic and many secondary schools, primary schools and kindergartens. There are also a few vocational centres. Agricultural training is offered at Samoa Polytechnic and secondary schools (the USP School of Agriculture is located in Samoa and is a centre of excellence in agricultural education, research and related activities). In Samoa, secondary schools teach agriculture to prepare students for higher studies at tertiary level. Whilst Samoa Polytechnic is more of an engineering/carpentry institution, it does offer a certificate in horticulture. Graduates normally establish agricultural businesses, for example, vegetable production and animal production, thus contributing to the economy and rural development in the country. Others may study for diploma and degree qualifications and work in the Agricultural Department also contributing to agricultural and rural development.

2.2.4 Health Department

The Health Department ensures that the population is healthy and that the environment is conducive to good health and hygiene. There is a central hospital and a few smaller health centres and clinics. There is also a nursing school and a few private practitioners. There is a nutrition section which has a vegetable garden where nutritious vegetables are grown and made available to the public. The Department grows a range of crops, mainly vegetables, both indigenous and introduced which have high nutritional value. The Department distributes these to the community along with instructions on growing them. It also gives out recipes using the vegetables. The Department thus contributes significantly to agriculture and rural development.

2.2.5 Land and Titles Department

This Department looks after the interest of landowners and *matai* (chiefly) titles which often go with land ownership, which includes agricultural land. It ensures that landowners are registered properly to avoid land disputes which often affect agricultural production. Farmers have been known to farm land successfully, only to find that others own the land and thus have to abandon the farm. This affects agricultural productivity and rural development.

2.2.6 Land, Survey & Environment Department

The Department is responsible for making sure that land and land boundaries are correctly surveyed and documented. It also ensures that the environment is conserved and clean, and Samoa has indeed a clean environment. Disputes over land boundaries have also affected agriculture and rural development, since successful agricultural projects have been established on adjacent land and have to be removed if owned by someone else. The Department also ensures that contamination of the environment with chemicals is minimised to ensure sustainability of agricultural production.

2.2.7 Ministry of Women's Affairs

The ministry deals with problems or issues affecting women and ways to improve women's lives and employment and other opportunities, taking into account gender balance. Women are contributing significantly to agriculture in Samoa, since many have established agricultural businesses assisted by this Ministry. Projects range from vegetable production, egg production, chicken farms, floriculture and so on. Many of these are very successful and have contributed to economy of the country as well as the standard of living.

2.2.8 Ministry of Youth, Sports and Culture

The Ministry is responsible for the welfare of the country's youth, the promotion of sports and the maintenance and promotion of culture in the country. The Government of Samoa gives priority to its youth. Youth are being encouraged to take up agriculture and the Ministry has provided support in terms of training and finance. Successful young farmers' clubs are now contributing significantly to agricultural production and rural development and thereby preventing rural–urban drift.

2.2.9 Public Trust Department

This Department deals with trustees of land mainly. These lands include agricultural lands so that agricultural activities on these lands are recognised and safe to use. Some lands have absentee landlords and may have squatter settlements on them preventing agricultural development by the owner. It is the responsibility of this Department to help that this does not happen.

2.2.10 Statistics Department

The Statistics Department is responsible for all sorts of Government statistics, e.g. population, agricultural, export and other vital statistics. It is very important for agricultural development

since it provides pertinent information to producers allowing them to make informed decisions and be more successful. Information on prices of agricultural produce help growers grow crops fetching higher prices in the market and so on. In Samoa, kava, vanilla, noni and coconuts are now encouraged and supported as valuable crops

2.2.11 Trade Commerce and Industry Department

Responsible for trade and commerce issues and development of industries in the country, including agricultural industries or businesses which provide agricultural goods for local consumption and export or trade. The Department provides information on markets, exports, imports and so on to traders and exporters. It also provides support and information on agricultural businesses favoured or required by Government so that balanced development is achieved.

2.3 Government boards, corporations and independent bodies

2.3.1 Agricultural Store

The Agricultural Store obtains and sells agricultural products to clients. It sells a range of agricultural merchandise essential for the development and operation of any agricultural enterprise to achieve high productivity. In Samoa, the Store sells seeds, agricultural tools, machinery, chemicals and many more, all very useful for agriculture and rural development.

2.3.2 Development Bank of Samoa

The main responsibility of the Development Bank of Samoa is to provide loans for development projects useful for the country. The Bank is a popular financing source for agricultural projects, both large and small. It makes loans available for a range of agricultural ventures, example, vegetable production, animal production and floriculture.

2.3.3 National Provident Fund

The National Provident Fund ensures that members' savings are available to them at retirement and other times according to regulations. It also finances agricultural businesses by being a shareholder in joint ventures, for example, the coconut cream enterprise in Samoa is partly owned by NPF which provide finance and loans. Members can secure loans for any agricultural project from this source but agricultural land is popular.

2.3.4 National University of Samoa

This is concerned mainly with education at tertiary level in Samoa. It provides a background in the sciences necessary for embarking on agricultural studies at USP School of Agriculture. Many students have proceeded to study agriculture at degree level thus contributing to agriculture and rural development in Samoa.

2.3.5 Samoa Polytechnic

Samoa Polytechnic serves the country's need for technical and middle level manpower. The Polytechnic offers a certificate in horticulture, and many graduates have established agricultural businesses. It also offers engineering programmes and graduates work in agricultural institutions as machinery operators. It is contributing significantly to agricultural and rural development in Samoa.

2.3.6 Samoa Trust Estate Corporation

The Corporation deals with the use and sale of government land and related property (e.g. butchery shop). It owns large plantations of coconuts, cattle, bananas and other crops, the produce from which are either exported or sold locally. Being large, it produces significant amounts and thus contributes significantly to agriculture and rural development in Samoa.

2.3.7 Televise Samoa

Responsible for the television service as the medium for communication, entertainment and education. Televise Samoa broadcasts agricultural programmes two one-hour shows twice a week. Much agricultural information is disseminated this way on a range of topics (e.g. crop production, crop protection, animal production, demonstration of farming and composting techniques). The current interest in the country now is on noni, kava, vanilla and coconuts. These broadcasts have resulted in the dissemination of agricultural information and adoption of techniques, which has improved agriculture in Samoa.

3. Overview of ICM Issues: Capacity, Services and Needs

3.1 Summary of ICM capacity in Samoa

The following sections examine institutions working with the agricultural information and communication sector in Samoa. These are described and discussed with respect to their information and communication management (ICM) capacity.

3.1.1 Institute for Research, Extension and Training in Agriculture

The ARDIN Centre (Agricultural and Rural Development Information Network) is the information arm of Institute for Research, Extension and Training in Agriculture (IRETA) and is based at the SOA library. There are three staff in the Centre: one information officer with a Bachelor of Agriculture degree, one information assistant (publications) with a certificate in computing (computer operations for publications etc.) and one video production officer with a certificate in video production. ARDIN operates on a budget of about WST 10,000 (2,885 euro) a year. Equipment includes two computers, latest video equipment, colour laser printer, photocopy machine, cameras and so on.

The main functions are: collecting relevant agricultural materials from the 12 islands nations in the USP region, especially unpublished research and grey literature, organising them into a computerised database and disseminating them throughout the USP region and beyond to those who request them. The Centre was a member of the regrettably defunct SCAINIP network (Standing Committee on Agricultural and Information Network in the Pacific). The Network used ProCite software for its databases and ARDIN keeps and maintains the Regional Resource File (RRF). To make the resource more easily distributable, there has been discussion on converting this database from ProCite to DB/TextWorks, and for the new information officer to be trained in its use. This database now consists of about 3,000 records of published and unpublished papers on agriculture in the Pacific about.

The ARDIN Centre receives 200 requests yearly for information from the Pacific and beyond and the number of requests is increasing. The Centre has access to the following CD-ROM databases: AGRIS (FAO), Agricola (US National Agricultural Library), CAB Abstracts CABI), TROPAG & Rural, and Food and Nutrition (Royal Tropical Institute in Netherlands). CTA pays for two CD-ROM subscriptions, Agricola and TROPAG & Rural Development. AGRIS is free from FAO.

The main problems relate to inadequate and outdated computing equipment which need replacement. There is a need to purchase a CD-ROM server; at present the section uses single CD drives. The section is connected to the Internet and anticipates accessing the main USP campus library in Fiji as well as the rest of the USP region.

The ARDIN Centre is part of IRETA and under the supervision of the Director of IRETA who has over 10 years experience as the Director and over 20 years in information management and in organising agricultural workshops and meetings at both local and international levels. The Director has a masters' degree in agricultural extension/education. There are two other staff assisting the Director in the organisation of workshops and meetings, both with diploma qualifications. IRETA is a very efficient organisation, well staffed and resourced to carry out work in the area of agriculture and related areas including information management. It has carried out many very successful projects with many institutions both local and international including CTA.

3.1.2 Ministry of Agriculture, Forests, Fisheries and Meteorology

The objective/mission statement of the information and extension arm of MAFFM is to "establish a strong, growing and sustainable primary production sector leading to higher standards of living and better health for the Samoan people in a dynamic *faa Samoa*". Dissemination of agricultural information forms part of their tasks, which involves going out to villages to advise, train and disseminate information and technologies, in order to improve agricultural production for export and local consumption.

There are 31 staff members in five stations and 11 outstations. Qualifications range from postgraduate diploma/degree to diploma and certificate, with a few persons trained on the job. The resources available include a budget of WST 716,250 (206,674 euro) for 2003/04 to cover operations and personnel. Equipment available includes three computers, photocopying machine, fax machine, video equipment, tapes, radios, etc. The section has a small library with one person designated 'librarian' and obtains information from own research, USP/SOA research (published in journals, newsletters etc.), video tapes (locally and overseas produced), training materials (e.g. workshop proceedings), etc. The librarian is not qualified, and the Secretariat fo the Pacific Community (SPC) has recently tried to help the librarian with documenting her library; this form of assistance has been offered by SPC and other institutions on and off, since 1991. The Section can also access material from the Internet. The Section does not receive CTA publications directly. The Section's role includes extension and outreach, information services, financial services, policy and planning, private sector, research and development, regulation, training and trade and marketing. The Section is involved in two pilot projects, Future Farmers of Samoa and partnerships with other organisations, e.g. women's groups, Health Department, Women in Business and NGOs.

The target audience include farmers (subsistence and commercial), youth and villages. Staff of the Section has attended CTA seminars, co-seminars and training through IRETA. It collaborates with SPREP, FAO, USP, SPC, Samoa Polytechnic, AusAID, NZ, ISP and many more.

The Crop Research Section for research in the areas of crop production and protection and sustainability of production. Programmes include breeding, agronomy, plant pathology mainly. Research is directed at farmers' needs. The Section receives CTA publications and attends CTA Seminars and co-seminars. It also collaborates with SOA (training), IRETA (training), SPREP (projects), FAO (projects), NUS (training), and Samoa Polytechnic (training). Information needs are met by own research, links with USP, SPC, Imperial College (London), British Museum and University of Hawai'i on agricultural information. Information on pest and diseases and identification is from the Commonwealth Scientific and Industrial Research Organisation (CSIRO) in Australia. Information on organic farming and integrated pest management (IPM) is needed badly. Information management capacity is weak since there is no IT specialist. The Quarantine Section ensures that pests and diseases are prevented from entering the country through strict quarantine measures and Livestock Section ensures that research is targeted at livestock important to the country. For example, sheep have recently been introduced.

3.1.3 SOA Library and other libraries

The School of Agriculture (SOA) Library provides information on mainly agricultural subjects for staff, students and, to a lesser extent, the public. The staff consists of a librarian, an assistant librarian and two helpers (shelving, etc). The librarian holds a degree and the assistant librarian a diploma and others, certificates. The annual budget is WST 500,000 (144,275 euro), for operations only. The equipment consists of three computers (for students use) and three for staff, a photocopier and several printers. The library information sources range from those from interlibrary loans (very expensive) to a large range of publications,

journals, periodicals, newsletters etc. Most materials are those recommended by staff, students, readers and the library committee. The library receives CTA publications indirectly through IRETA. It has good access to the Internet. The ARDIN Centre described earlier is housed in the Library.

The Nelson Memorial Public Library, the *de facto* national library, provides a wide range of information compared with the SOA Library. It has a similar setup to the SOA library but a larger budget and better equipment. It does not receive CTA publications directly. It has good access to Internet. The target audience is diverse and includes students and the public. It has a principal librarian with a diploma in librarianship, and nine other staff, only two of whom are currently pursuing library courses; the other staff have no qualifications in librarianship. The Library is well-patronised but has limited funds.

3.1.4 FAO Sub-Regional Office for the Pacific

The FAO Sub-Regional Office for the Pacific (FAO-SAPA) serves the Pacific region mainly in the area of agriculture and food, offering a range of services which include information dissemination and management. It is a regional organisation or network which is also global. Its role includes information services, policy and planning, research and development and trade and marketing (including development). FAO's objective is to alleviate poverty and hunger around the world by promoting agricultural development, improved nutrition as well as the pursuit of food security. There are 28 staff members. Qualifications range from PhD to Bachelors degrees in the areas of agriculture, forestry, fisheries and marine sciences. The resources available include a budget of about WST 5 million (1.4 million euro), a well equipped library and about 20 computers and state-of-the-art scientific equipment. Main source of funding is FAO, Rome. Projects undertaken include fisheries, forestry, plant protection, farming systems, marketing and nutrition. Target audience include farmers, fishermen, government departments, agricultural sectors, students, NGOs and the private sector. Staff members have attended CTA seminars including the sub-regional representative in Samoa. FAO collaborates with IRETA, SOA, ministries of agriculture, and the regional organisations and global organisations.

The FAO library provides mainly agricultural information but the material is mostly from overseas (e.g. Africa, India, Europe) which is not of direct relevance to the South Pacific. It also has limited access to material from the South Pacific. FAO is an international organisation and has access to Internet and more. The target is mainly government and related institutions. It has a librarian who has no formal librarian training, a budget of WST 150,000 (43,283 euro) and the latest equipment and technology. The librarian worked previously as IRETA information assistant.

3.1.5 L. Keil Holdings

L. Keil Holdings belongs to a private businessman. Staff number about 10. The company produces noni juice under the brand name Samoa Nonu. The company is interested to work with women's organisations to produce organically-grown *nonu* (noni) and juice since these fetch higher prices. However growing and exporting organic produce needs control and certification, which is a major constraint. The company produces 50,000 tonnes of noni juice each month. The volume of production depends on the fruit collected from growers. The company hopes to develop its own plantation. Staff qualifications range from diploma to secondary level. Resources include a new factory and equipment for extraction of noni juice and containers for bottling the product. The company buys fruit from contracted farmers but other farmers also sell fruit to the company. The company offers competitive prices to growers to retain customers since there are other companies operating also; the fruit is received any time of the day and cash is given straight away depending on weight. Customers include women and children. The company use local information on noni juice extraction and

modify this to suit commercial standards. Information is also obtained through research and the Internet.

3.1.6 Samoa Natural Foods International Ltd

Samoa Natural Foods International Ltd was started 50 years ago as an agro-based manufacturing company. The company started with breadfruit chips, also taro, banana and cassava chips. In the 1990s, a spate of cyclones reduced raw materials for snacks, however the business has since recovered and now produces 5 tonnes of manufactured foods a week. Their products are popular in Samoa and are also exported to New Zealand and Australia. The company is looking at high quality packaging for the exported products. The capacity is such that it will produce cereals, juice-based ice pops, and convert or process some crops into powder and flour. The company has about 15 staff and a budget of over one million tala (288,550 euro). Qualifications of staff range from degrees to certificates. Equipment includes factories and related machines and modern technology. The capacity is good enough to produce quality produce. Target groups include farmers, women and the unemployed who are contracted to grow crops which are sold to the company any time of the day. They are expected to produce certain quantities to keep the company in business. The company buys produce as well as produce its own. Information related to its operations come from own research, collaborative research with institutions and through the internet. IRETA also provides information to this company.

3.1.7 Taro Breeders Club

The Taro Breeders Club (TBC) consists of about 20 taro growers, 15 students and five USP staff members. TBC was started five years ago to encourage the distribution of taro planting material resistant to taro leaf blight (TLB), in order to revive taro production in Samoa. They are also involved in the breeding programme of SOA/SPC/MAFFM to improve the resistance of taro to TLB. The staff and students of SOA carry out most of the breeding work, while the taro growers provide land to evaluate the material on their farms. This way, the best varieties suited to the different sites/locations are released to the growers. To date, about 10 varieties have been evaluated and released for commercial production in Samoa, and taro production is recovering fast. Exports have recommenced to NZ, Australia and elsewhere, and taro is again plentiful in the market. This is a success story.

The Club uses SOA/SPC/MAFF facilities: adequate land for research on station and adequate land for on farm evaluation, provided by farmers. The Club also has access to laboratory facilities of SOA and tissue culture material of taro kept at the SOA if they need it. Other facilities include greenhouses, a quarantine area and some research equipment. Expertise on taro production is also available to the Club.

3.2 Agricultural information and services

3.2.1 Institute for Research, Extension and Training in Agriculture

The current source of agricultural information and services for IRETA include the following:

- CTA. Most information from CTA is available to IRETA on request. These include agricultural and related publications, question and answer information, seminar and other proceedings and so on.
- SOA. Provides research information, and provide manpower to conduct workshops, meetings, consultancy etc which generate targetted information. Information is published internationally and locally.
- ALO Network. The Agricultural Liaison Officers (ALOs) provide IRETA with agricultural and related information from 12 member countries of the USP region. Most information is published in the IRETA newsletter with a local and overseas circulation.

- In-house information. This is information generated from IRETA's own work such as workshops, meetings, training, consultancies, study visits etc. Information is also generated in work with partners, e.g. CTA, FAO, SPC.
- FAO. A range of publications from FAO are available to IRETA. Some of these are general information on FAO work, work on biodiversity, conservation farming etc.
- SPC. IRETA also receives information (publications etc.) from SPC. These include newsletters, agricultural manuals, workshop proceedings etc.
- Libraries. IRETA obtains information from libraries(interlibrary loans etc) with libraries in NZ, Hawaii, Australia, Hong Kong and so on, and local libraries such as NUS (National University of Samoa), Nelson Memorial Public Library, FAO library and so on.
- Agricultural Development in the American Pacific programme (ADAP). IRETA also receives material from ADAP.
- APSA (Asia Pacific Seed Association). Information on seed and seed technology is obtained from APSA and used to supply information to users.

3.2.2 USP School of Agriculture

SOA obtains information for its students, staff and other users through various sources. These are as follows:

- CTA. SOA accesses CTA material through IRETA. The most common material is the *Spore* newsletter which contains useful information.
- Publishing companies. Textbooks for students and reference materials are ordered from a variety of publishing companies in England, United States, Netherlands, Australia, NZ, and so on.
- Scientific journals. A range of scientific journals are also tapped for information, especially on research. Some of these are the *Indian Journal of Agricultural Science*, *Tropical Agriculture (Trinidad), Crop Science* (US), *Plant & Soil* (Netherlands).
- Local and overseas libraries. Agricultural information is also accessed through interlibrary loans and exchanges with local libraries and overseas ones.
- Own research and publications. Results of own research are published locally and internationally and made available to staff and students. Much information is published in the *Journal of South Pacific Agriculture*, a local journal with wide international readership.
- SPC. Much information is also received from SPC, mainly on plant protection and genetic conservation.
- FAO. SOA also obtains information from the FAO Sub-regional Office in Samoa, though much is not directly relevant to the South Pacific.

3.2.3 Ministry of Agriculture, Forests, Fisheries and Meteorology

The Extension and Information Section of MAFFM obtains information from the following sources:

- Own research. The section conducts its own research to find out the needs of farmers and other clients through workshops, PRA exercises, seminars, meetings etc. It also depends on the research outputs of other sections of MAFFM, e.g. Crops, Quarantine, Livestock, Research. These generate mainly technical material on how to produce crops/animals, improve them and so on.
- USP/SOA research. This research generates mainly technical information published in scientific journals, newsletters, *AgroFacts* and those recorded on videos. A range of topics is covered from crop production, animal production, soil science and fertility, agricultural engineering, plant protection, plant breeding, tissue culture and much more. Taro breeding information is also obtained from the SOA research.

- Internet. Much useful information is obtained from the Internet also with ease.
- IRETA. IRETA produces a lot of information through workshops and meetings which are published and made available to users, especially those from the South Pacific including MAFFM in Samoa. Useful videos on crop production, livestock production and other agricultural topics are also available to MAFFM.
- Secretariat of the Pacific Regional Environment Programme (SPREP). MAFFM also obtain useful information from SPREP, e.g. climate change and agriculture, global warming and rising sea levels and environment conservation. Some useful information on the role of livestock production on global warming was generated through collaborative research with the SOA.
- FAO. Information on a range of agricultural areas (e.g. biodiversity, conservation agriculture) are also available from FAO. Financial assistance to generate information is also available.
- SPC. Information on tissue culture, genetic conservation, plant protection and a range of agricultural areas is available. SPC produces booklets, pamphlets etc. on some useful agricultural topics. It also finances the publication of information and conducts training courses and workshops which generate information.
- Samoa Polytechnic. This has courses on landscaping, business and management which contain good material for MAFFM's work.
- AUSAID. AusAID generate information on some areas of agriculture through their attachment to MAFFM to carry out research on farming systems and related areas, e.g. taro breeding. They also conduct training courses and generate useful information which becomes the property of MAFFM.
- NZ. MOA also obtain information from NZ, especially in relation to quarantine requirements of export crops since NZ is a major market.
- Internet Service Provider (ISP) (AUSAID). Information on human resource capacity building is obtained from ISP. Along with other related information.
- Imperial College of London, UK. Information obtained includes videos, publications, journals etc.
- British Museum. Information on identification of plants and related knowledge areas is obtained from UK.
- Commonwealth Scientific and Industrial Research Organisation of Australia (CSIRO) provides information on the identification of pests and diseases.
- FAO Library. MAFFM has access to agricultural information from FAO. However, information is obtained from all over the world and is generally not very relevant to the South Pacific or Samoa.

3.2.4 FAO Sub-Regional Office for the Pacific

FAO-SAPA obtains information from the following sources:

- Results of own research and database.
- Other United Nations agencies.
- Ministry of Agriculture, Forests, Fisheries and Meteorology.
- USP School of Agriculture.
- FAO in Rome (David Lubin Library).
- Regional organisations.
- Global organisations.
- Internet.

3.2.5 L. Keil Holdings

The company obtains information from the following sources:

- Japan (importer) on standards and quality.
- Own research on processing, etc.
- IRETA (publications and workshops).
- SOA (publications, research, etc.).
- MAFFM (research, publications, visits).
- Internet.
- Other non-CTA sources.

3.2.6 Samoa Natural Foods International Ltd

The company obtains information from the following sources:

- Ministry of Agriculture, Forests, Fisheries and Meteorology
- IRETA
- SOA
- Own research
- New Zealand
- Australia.
- Regional organisations
- Internet.

3.2.7 Taro Breeders Club

The club obtains information from the following sources mainly:

- SOA puplications
- MAFFM publications
- SPC publicatoins
- FAO publications
- Direct information from SOA staff, MAFFM, FAO and SPC.

3.3 Needs analysis

This section draws on the findings presented in section 2, 3.1 and 3.2 and leads to conclusions and recommendations. There are two aspects and those are needs in terms of information and capacity building. These are discussed separately below.

3.3.1 Information needs

The following needs were articulated during discussions and interactions with selected institutions. Some were obtained from publications from institutions or individuals.

Production

- Information on cultivar evaluations of staple crops (taro, cassava, *taamu*, breadfruit, yams), fruit crops (papaya, citrus, rambutan, pineapple, mangosteen, avocado, noni), tree crops (cocoa, coconut, coffee), nuts (cashew, lama, galip), vegetables (leafy greens, cucurbits, eggplants, peppers, tomatoes), field crops (peanuts, mungbean), alternative cash crops (spices, vanilla, chilli, pepper, essential oils, honeybees, medicinal plants) is expressed needs. Information on new crops/varieties, cultivar improvement will be very useful.
- Information on agronomic improvement of the crops mentioned above will also be useful and needed. Important aspects are propagation, establishment, weeding, pruning , shade, cultivation, crop loading

- Information on crop nutrition of the crops mentioned is also a need. The useful areas are suitable soils, fertiliser requirements, fertiliser types, organic fertilisers, mulches.
- Information on farming systems is also needed to correctly produce crops/livestock. Useful areas are organic farming, village level systems, agroforestry, intercropping etc. Comprehensive information on organic farming is a must since organic farming is on the increase.
- Information on traditional agricultural technologies is a must for the South Pacific including Samoa. There is a wealth of traditional agricultural technologies in the South Pacific, including Samoa, which are still used but may disappear if not documented, e.g. taro planting stick, coconut scraper etc. These need to be documented so that the information on how to use and make them is available to potential users, who may wish to improve them. These technologies also cover fisheries, livestock and of course agriculture and related areas, e.g. food processing.
- Noni and other medicinal plants are becoming important in Samoa and information on their production methods are needed by many people. Information on these are generally not available, and need to be collected and documented.
- Vegetable backyard gardening is now part of many households in Samoa. They are now part of the modern lifestyle of women in both urban and rural areas. The planting and management of a vegetable garden is for household consumption and to supplement income. These are normally mixed cropping of vegetable types. Information on complementary combinations, production and management methods are needed.
- Information on reforestation is badly needed, e.g. best varieties, practices, management.

Protection

Information on pests and disease management is also an expressed need. Pests and diseases are a major problem in Samoa. Important areas are chemical, physical, biological, integrated pest management, pest surveillance). Specific diseases include corm rot, taro leaf blight, bacterial wilt, etc. Pests include giant African snails, diamondback moth, mealy bugs etc. Control measures which reduce the use of pesticides are needed in Samoa. Taro leaf blight work is crucial for the recovery of the economy of Samoa. The work needs to focus on improving quality and taste. Information on breeding techniques along with genetic engineering is needed.

Harvest and postharvest management

Harvest and postharvest management information is also an expressed need. This is to ensure good quality of export crops. The useful areas are harvesting, drying, quality management, storage, transport.

Marketing and economics

- Information on processing, adding value, is also an important need. This is to improve the value of exports. Needed areas are quality standards, sorting/grading, processing, value added product development, use of by-products.
- Information on market facilitation is also a need. There is a lack of knowledge of markets which affected export. Areas needed are, market information and requirements, market access and pathways, linkages with exporters, procurement and so on.
- Information on economic evaluation is also an expressed need. This is needed to make informed decisions. Areas needed are, gross margins, financial impact, benefit cost analysis etc.

Resource management

- Resource management information is also an important need. The useful areas are, soil and water management, invasive species management, watershed management and environmental conservation, reforestation.
- Disaster preparedness information is high priority in Samoa since it is frequented by cyclones and strong winds. Information on how to prepare for natural disasters such as cyclones, earthquakes, landslides is needed in Samoa. Information on suitable crops during times of disasters is required. Compilation of information on indigenous crops used during natural disasters is needed so that these can be preserved and grown.
- Information on individual island nations/countries of the South Pacific in agriculture and environment is also needed.

Food security and rural development

- Food security information is perhaps high priority in terms of need. Food insecurity is now a problem in the South Pacific, due mainly to the growing population and lack of opportunities in employment. Information on ways of improving food security is crucial for Samoa. Much food wastage occur during fruiting seasons of breadfruit, mangoes and so on.
- Information on governance and rural development is also needed in Samoa so that channels of communication between the government (extension officers) are followed to facilitate rural development. Information on this, needs to be collected and documented.
- Gender issues information is badly needed, especially on projects that can be carried out by women. Some examples are information on vegetable production, floriculture, organic farming, small-scale food processing and preservation.

Agricultural research results

- Information on agricultural research results are very much in demand. For a variety of reasons these are not readily available to extension officers. The information should be presented in language understood by the users. Areas identified are organic farming, marketing, postharvest and value adding. Information on simple food processing techniques are also in demand, especially by women groups.
- Information on soil fertility management and quality is also needed. Soil studies in Samoa were undertaken about 40 years ago and need updating. Information on soil taxonomy and development is required as well as land use studies, so that crops/livestock can be raised in the correct places.
- Information on crop production, protection, and tissue culture is also needed. There is a need to compile information on organic farming from South Pacific countries since there is a wealth of knowledge in this area. Information on certification of organic produce is also required. In the plant protection area, there is also a need to compile information on indigenous knowledge in plant protection. Recent information on tissue culture techniques is also needed since the duplicate tissue culture germplasm of taro for the South Pacific is in Samoa (USP/SOA).
- Livestock production information is also needed, especially in the bigger islands. Needs include feed formulated from local resources for chicken and pigs and to a lesser extent, ruminants, e.g. cattle, sheep, goats. Information on improved pastures (e.g. mixtures of legumes and grasses, browse) is also an expressed need. Livestock is not as important as crops since land area in Samoa is relatively small.
- Fisheries information in Samoa is scant and much needed. There is a general lack of information on all aspects of fisheries in the South Pacific including Samoa. Information on shellfish, pearls, seaweed, freshwater fish production and aquaculture are needed. Information on managing fisheries resources is badly needed since resources are limited.

3.3.2 Capacity building needs

In relation to capacity building, the following needs were identified during interviews.

Targeted training

Much agricultural information needs to be published to reach the users. However, for this to happen, there is a need for training but the greatest need is for increased awareness of the need to manage an institution's information resources. In other words, development of an appropriate policy for information and communication management, and an implementable strategy is also needed in the following areas:

- computer operations for publications, computer applications such as PageMaker and their installation and operation
- training technical staff at degree levels in agricultural education and extension
- training to produce digital video graphics and videos in general
- training in the production of television programmes, radio programmes in English and vernacular
- training in information technology and information acquisition (CTA)
- development of appropriate policy for information and communication management and an implementable strategy.

Lack of equipment

There is a general lack of equipment in institutions concerned with information and communication management in Samoa. Examples of needed equipment are latest video equipment, colour laser printers, printing and binding machines, photocopy machines and general office equipment. Latest computer models are also lacking. CTA may help in assessment of equipment needs to acquire information such as computers etc.

Training for Agricultural Liaison Officers

There is a need to train and upgrade the skills of the present ALO for Samoa in the management of agricultural information and communication activities. The training can be in the form of a study visit or attendance at a CTA-organised workshop aimed at capacity building. MAFFM is beginning to support information management but needs to build capacity in this area. The ALO also provides information for the region, not only Samoa. However, others think the time has come when the ALO ntework needs to be cancelled, or radically overhauled. Both Kern (1996) and Sisifa (2000) questioned the efficiency of the ALO network. Every year, CTA funds a workshop for ALOs and if the ALOs were going to make a difference, it should have been discernible by now.

Lack of resources

There is also lack of information resources such as locally produced information on indigenous agricultural technologies, mixed cropping and agroforestry, reforestation, honey production, food processing and value adding etc. An assessment of information resources in libraries and information centres should be undertaken. Problems include outdated journals, security problems and according to students interviewed, 'most information needs are not met, most articles are not in the library, on shelves or in reference collections'. These is mostly information regarding agriculture in general needed for assignments and research write-ups. Librarians need to be trained in the procedures of interlibrary loans or other methods of acquiring information since interlibrary loans fees are too high for students. Witht he exception of SOA Library, there are no trained, qualified librarians. The continuing reliance on unqualified staff leads to undesirable outcomes. If there was a policy for information management, it would surely state that qualified staff are needed.

Communication policies
Lack of clear policies and guidelines (strategies) on how to carry out communication activities is also a problem. A number of methods have been developed and used. There is a need to use the traditional methods with a few changes to improve its effectiveness. An understanding of governance and rural development will be useful.

Use of communication equipment
Training on the use of standard and advanced equipment for information and communication management is essential, e.g. printing/binding machines, computers, and video machines and so on.

Equipment/facilities inventory
An inventory of equipment/facilities used by institutions concerned with information dissemination and management need to be undertaken to identify areas of need. The deficiencies can then be prioritised and rectified.

Information security
In libraries, training to improve security is required since many books, published material and so on, go missing every year. Training in library work, procedures and ethics should also be undertaken to improve services and how to improve information security will be useful. However reliable sources stated that library workshops have been held in Samoa in 1991, 1993, 1996 and later. Perhaps the focus should be on security and ethics and other important values.

Lack of partnership
This is a real need for all the institutions to engage in partnerships, best expressed by the FAO-SAPA librarian who said 'CTA contact is not available; if available, it would be good contact in future for training and especially information resources'.

4. Conclusions and recommendations

The conclusions will be made first, followed by recommendations. The conclusions cover the two main areas of interest: the current information needs, and the needs in terms of capacity building across institutions in general or specifically.

4.1 Conclusions

4.1.1 Current information needs

The study identified the current information needs from interviews with institutions and individuals and from relevant publications. The conclusions are made from the information gathered and are presented in order of priority.

General needs

Food security is the top priority for Samoa as expressed by the Minister of Agriculture himself in an interview in *USP Beat*. There is food insecurity in Samoa due to many factors, most important of which are limited employment opportunities, land tenure and ownership, population increase, natural disasters and poor agricultural production methods and extension techniques, i.e. information acquisition, dissemination and management is poor. Wastage of food during times of plenty (e.g. fruiting seasons) is a contributing factor to food insecurity.

There is stagnation in agriculture and in the volume of exports to overseas markets. This again is due to a number of reasons but of prime importance is that quality standards of importing countries are not met adequately. Contamination in consignments of breadfruit and other fruits have resulted in stoppage of exports in the past. Fruit flies and rot are major problems. Natural disasters such as cyclones and taro leaf blight disease devastated the taro industry as well as exports of other commodities. Poor market information and fluctuating prices also contribute to stagnation.

Specific needs

Production and protection:

- Poor crop/animal production techniques are still used. As a result, crop yields are generally lower than countries with similar climatic and edaphic conditions (e.g. coconuts). This situation is again due to many factors, viz, poor variety/breed evaluation techniques, poor agronomic research methods and procedures and underdeveloped plant breeding techniques/policies. There are no clear policies and guidelines on research. Lack of knowledge on crop nutrition/ animal nutrition and soils fertility and nutrient management/applications. Economic evaluation is also lacking. Use of local feeds is generally poor and imported feed is mainly used.
- Poor harvest/post-harvest handling and management is generally evident. Lack of knowledge on good harvesting techniques and post harvest handling contribute to crop yield loss and generally poor quality produce. This affects yields and quality in local markets and more importantly, in export markets.
- Organic farming is increasingly becoming important in Samoa, contributing significantly to the economy. However, information on production techniques and certification procedures are underdeveloped.
- Fisheries development is slow due to a number of reasons such as lack of information and expertise and poor extension of technology.
- Poor linkage between researcher and extension personnel and thus extension of research results to users is a problem in Samoa.

Marketing and resource management:

- Most export commodities are unprocessed, bulky raw materials (e.g. kava) and have low economic value. This is due mainly to lack of facilities for further processing of the produce to increase its value. Lack of expertise is also a contributing factor.
- Market intelligence is weak and the search for markets is not high priority. Generally, producers are left to look for markets for their produce. Inadequate produce to fulfil contract quotas contribute to market loss.
- Resource management (e.g. soils, watersheds) is generally poor in Samoa. This has resulted in some pollution of watershed areas and the environment.
- Poor disaster preparedness is also a problem area in Samoa. The dependence on non-cyclone crops is a contributing factor and lack of knowledge on cyclone crops is also an important factor.

Governance and rural development:

- Good governance and appropriate rural development will foster peace and good economic growth. Confusion in procedures of culture based governance and democracy must be cleared, i.e. policy guidelines are necessary.
- Self reliance is not strong in Samoa and projects which attempt to meet most, if not, all the needs of families in rural areas are rare.

4.1.2 Capacity building

The following conclusions are made with regards to capacity building for Samoa.

- There is very limited skilled personnel in the area of information management, agricultural extension. This is mainly due to lack of scholarships (funds) for training in these important areas, due to lack of priority to have people skilled in these two areas. Scholarships are available but are disbursed based on priority.
- There is generally a dearth of equipment in institutions dealing with information acquisition/management, e.g. in libraries.
- There is also a general lack of agricultural information in institutions in Samoa, especially on traditional agriculture, fisheries and related technology. This is because it needs funding to collect and compile the information. However, if there are staff willing to collect and document information, and if they have been shown how to do this and technical support is provided whilst they do this, then it does not take a lot of funding. But it does require commitment from the managers and the operators.
- In general, library personnel are not well trained and lack the qualifications and experience needed to efficiently run the libraries.
- Problems of the security of information is serious in all libraries and there is a need to address this problem. In the SOA library, security guards ensure books and published material are not lost.
- There is a lack of trained technicians who can fix equipment when broken and much equipment is lost this way.
- In fisheries, there is a general lack of skilled personnel in information and extension areas.
- There is a general lack of guidelines in relation to training in the information management area.

4.2 Recommendations

The following recommendations are proposed for possible action of CTA in assisting Samoa in the improvement of access to information needed for its development. Where appropriate, reference is made to CTA's programmes, products and services, grouped under broad headings.

4.2.1 Information needs

IRETA as main partner (for CTA's Planning Division):
That IRETA, under a memorandum of understanding, becomes a Pacific partner with CTA with IRETA being the extension arm of CTA responsible for the following: However, there is a limit to how much partnering IRETA and CTA can accomplish. As The CTA regional branch office, IRETA is well placed to benefit from and provide access to CTA products and services. As the main partner, IRETA can then reach out to other partners, similar to post office operations.

- forming formal links with the 'agricultural sectors' in Samoa by way of a memorandum of understanding (MOU) with the sectors which may include FAO and appropriate regional organizations;
- that the ' agricultural sectors' in Samoa, including the ALO network make known, their information needs to IRETA on a regular basis (monthly) by way of requests;
- that IRETA contacts CTA to submit the requests;
- that CTA sends to IRETA the requested material;
- that IRETA delivers the material requested to the recipient;
- that the recipient acknowledges the receipt of the material;
- that IRETA contact CTA to notify the receipt of the material, and submit further requests.

Information Management Committee
That an 'information management' committee be set up for Samoa to advise CTA, through IRETA, of its information and capacity building needs, or contact CTA directly since a viable committee should have direct access to resources from CTA, but will need to prove they are needed.

Food security information
That CTA, IRETA and partners (USP, MAFFM, FAO, etc) provide information on food security in general, the causes of food insecurity and ways of achieving food security. CTA and partners may help by providing pertinent information and sponsorship for workshops on food security and related areas, e.g. food processing/technology. A workshop on food processing/technology of root and tuber crops will be useful.

Export requirements
That CTA, IRETA and partners be requested to provide the MAFFM and private sector, relevant information to improve agricultural productivity and export. Some of these are, information on requirements of importing countries, particularly trade partners of Samoa, especially New Zealand and Australia.

Production
That CTA and partners is requested to provide up-to-date information on crop/animal production techniques and resource management used in countries similar to Samoa and make these available to the MAFFM and IRETA Information on soil fertility management will be useful. Assistance with workshops/training on soil fertility and crop production will be useful. In addition, information on use of locally produced or available feeds for livestock will be useful.

Post-harvest handling
That CTA and partners be requested to provide information to MAFFM and IRETA on all aspects of good post-harvest handling to produce high quality crops for export, and to women and youth groups as well.

Value adding
That CTA and partners is requested to make information available to the MAFFM and IRETA on value adding techniques, especially on export crops (e.g. fruits, nuts, spices).

Markets
That CTA and partners assist in providing information on potential markets and their requirements and how to tap them.

Organic farming
That CTA and partners is requested to provide information on all aspects of organic farming and in particular, the techniques and 'certification systems' for organic produce.

Resource management
That CTA and partners be requested to assist Samoa in providing information on managing fragile and limited resources, e.g. soil, crops, animals, forests, watersheds, fish resources. This is high priority.

Extension methods
That CTA and partners be requested to provide information on various models or types of extension methods which foster good linkage between researcher, extensionist and users, which can be used by agriculturalists, fisheries officers and foresters to efficiently extend information and technologies. In addition, a training workshop be carried out using these methods for fitness to purpose.

Good governance
That CTA and partners provide information on the successful application of good governance on rural development and follow up with an appropriate workshop/training. The concept of self reliance should be an integral part of rural development.

Information needs management and policy
It is strongly recommended that CTA, in collaboration with IRETA, MAFFM, SPC and SOA, and regional organisations fund a regional workshop on the assessment of agricultural needs and policy issues in the Pacific islands as a basis for effective management of information and a guide for future activities in this important area.

4.2.2 Capacity building

Staff upgrading
That IRETA liaise with information sectors in Samoa (including itself) to identify areas where there is a deficiency of skilled workers and inform CTA of its findings so that CTA and partners can suggest training activities to address the problems. Areas already identified are listed under capacity building, under targeted training, in the needs analysis section. Workshops or study visits are recommended to build capacity in areas identified. A workshop on information production, dissemination and management is recommended, funded jointly by partners.

Equipment upgrading
That CTA and partners be requested to help in the assessment of information equipment needs and provide information on equipment types, prices, sources and ordering/purchasing procedures.

Librarians upgrading

That CTA along with IRETA and partners conduct a training/workshop for librarians targeted at addressing the lack of agricultural information, assessment of information resources for need and relevance, security problems and solutions, interlibrary loans and work ethics.

Needs identification

That CTA along with partners and interested regional organisations, conduct a regional workshop/meeting to identify capacity building needs of Pacific islands as a basis for more effective management.

Annex 1. Terms of Reference

TERMS OF REFERENCE

ASSESSMENT OF AGRICULTURAL INFORMATION NEEDS IN AFRICAN, CARIBBEAN & PACIFIC (ACP) STATES
Phase 1: Pacific

1. Introduction

The Technical Centre for Agricultural and Rural Cooperation (CTA) was established in 1983 under the Lomé Convention between the ACP (African, Caribbean and Pacific) Group of States and the European Union Member States. Since 2000, it has operated within the framework of the ACP-EC Cotonou Agreement.

CTA's tasks are to develop and provide services that improve access to information for agricultural and rural development, and to strengthen the capacity of ACP countries to produce, acquire, exchange and utilise information in this area. CTA's programmes are organised around three principal activities: providing an increasing range and quantity of information products and services and enhancing awareness of relevant information sources; supporting the integrated use of appropriate communication channels and intensifying contacts and information exchange (particularly intra-ACP); and developing ACP capacity to generate and manage agricultural information and to formulate information and communication management (ICM) strategies, including those relevant to science and technology. These activities take account of methodological developments in cross-cutting issues (gender, youth, information & communication technologies – ICTs, and social capital), findings from impact assessments and evaluations of ongoing programmes as well as priority information themes for ACP agriculture[1].

In January 2002, CTA's Strategic Plan (2001-2005) was implemented and CTA's activities were distributed among three operational programme areas / departments:

- Information Products and Services
- Communication Channels and Services
- Information and Communication Management Skills and Systems

These operational departments are supported by Planning Corporate Services (P&CS) which is charged with the methodological underpinning of their work and monitoring the ACP environment in order to identify emerging issues and trends and make proposals for their translation into programmes and activities. This current exercise, therefore, falls within the mandate of P&CS.

2. Main issues

CTA works primarily through intermediary organisations and partners (non-governmental organisations, farmers' organisations, regional organisations, …) to promote agriculture and rural development. Through partnerships, CTA hopes to increase the number of ACP organisations capable of generating and managing information and developing their own information and communication management strategies. The identification of appropriate partners is therefore of primordial importance.

[1] Priority information themes for ACP agriculture have formed the basis of various several studies, workshops and seminars bringing together various stakeholders, organisations and institutions active in the field of agriculture and rural development. The documents (or extracts thereof) will be provided to the consultants.

The "Evaluation of the Implementation of the Mid-Term Plan (1997 – 2000)" emphasised the need for CTA to develop a more pro-active approach and elaborate criteria for decision-making with regard to the choice of partner organisations and beneficiaries. Based on this evaluation, the "Strategic Plan and Framework for Action – 2001 – 2005" identifies strategic issues for CTA being: improved targeting (including partnerships and beneficiaries), geographical coverage, decentralisation, regionalisation and thematic orientation. The Plan also expresses concern about: the extent to which CTA's activities are relevant to and reach the poor, gender awareness and how to identify potential partners especially in the independent sectors.

Besides partner identification and selection issues, the observation has also been made that, traditionally, the Pacific and Caribbean regions have not received sufficient attention in CTA's programme and activities. This is, for example, highlighted in the statistics on the number of individuals and organisations which receiving CTA publications or participating in workshops and training courses. Furthermore, the admission of 6 new Pacific member states under the Cotonou Agreement means not much known about them, hence the need to develop CTA intervention strategy and provide more targeted assistance.

Finally, various national and regional partners with whom CTA has had a long-standing relationship have requested the current study in order to provide more targeted assistance to their beneficiaries.

3. Objectives and scope of the study

The objectives of the study are as follows:

- to identify agricultural information needs of key actors / beneficiaries for CTA products and services;
- to identify needs of potential actors / beneficiaries of CTA activities and services in terms of building capacity for information and communication management;
- to identify potential partners / beneficiaries for CTA activities and services;
- to develop some baseline data to facilitate subsequent monitoring activities.

The study should assist the three operational departments of the CTA as well as its local representatives to improve and better target interventions and activities aimed at potential partners and beneficiaries (including women, youth, private sector and civil society organisations); to have a more informed picture of their needs and aid in the elaboration of a strategy and framework of action. The study should also highlight where there are specific needs for CTA's products and services thereby enabling improvement in the delivery of the same.

4. Methodology

The consultant will use a combination of qualitative and quantitative rapid appraisal methods including:

- the desk review of available literature and information sources including the findings of programme evaluations;
- the conduct of face-to-face interviews with relevant stakeholders / concerned parties;
- the limited use of questionnaires.

The rapid appraisal approach will allow a general overview of the key issues and company / organisational profiles on a per country[2] basis and may give rise to more in-depth studies as and when needed in the future.

[2] Out of 30 countries comprising the Caribbean and Pacific regions, only selected number will initially be the subjects of studies, with domestic consultants conducting country-specific assessments. Country selection will be done by CTA on the basis of specific criteria.

5. Expected outcomes / output

One main report per country not exceeding 20 pages according to the following table of contents:

Main report

1. Executive summary
2. Introduction
3. Country profile – summary structure and economic characteristics with particular attention to agricultural sector (includes fisheries and forestry):
   - Summary of how agriculture, fisheries and forestry is organised in the country
   - Summary of the information and communication management capacity
   - The current source of agricultural information and services (synthesise Annex 3)
4. Needs analysis
   - Information needs
   - Capacity building needs (skills, training, media, ICT, equipment)
5. Conclusions and recommendations
6. References

Annexes

1. *Terms of reference*

2. *Country profile*

2.1 General agricultural profile (*from available documentation*)

- Size of agricultural population (male / female / youth)
- Farmed land, forests, fishing areas
- Agricultural systems
- Agriculture in the economy (percentage GDP)
- Main agricultural produce and secondary products
- Main export markets
- Trade agreements that include agriculture
- Sectoral policy related to agriculture, fisheries and forests

2.2 Socio-economic profile (*from available documentation*)

- Total active population, demographic breakdown
- Literacy level and languages
- Access to services (health, schools, electricity)
- Rural urban drift

2.3 Media and telecommunications *(update / check)*

- Newspapers, periodicals, magazines, radio stations, television channels,
- Telecommunication services (fixed, mobile, etc.)
- Computers and Internet access

3. *Profile of institutions*

- List of all institutions involved in agriculture and rural development activities, including private sector and civil society organisations, with name, contact details, type and role of institution
- Select list of key institutions involved in agriculture and rural development, with extensive data and information on the institution, the problems faced and why it is considered a key actor

It is also expected that the results of this study will lead to identification / update of some priority agricultural information themes which will feed into a possible priority-setting exercise in the Pacific in 2004.

6. Reporting

The country reports will not exceed 20 pages (excluding annexes). The annexes should include a list of acronyms, of persons/institutions interviewed with addresses, phone, fax numbers, e-mail addresses (if any) as well as bibliography.

7. Timing

- Draft final report is to be submitted within two months after contract signature by CTA
- Final report due two weeks after receipt of comments from CTA.

8. Expertise needed

The overall coordination will be carried out by Ms Christine Webster, Deputy Head, Planning and Corporate Services CTA, assisted by Mrs Lola Visser-Mabogunje, Project Assistant.

Mr. Peter Walton will ensure the regional coordination and lead a team of local consultants to be identified per country[3]:

Local Consultant	Country
Mr. Nga Mataio	Cook Islands
Ms. Makelesi Tavaiqia	Fiji
Mr. James T. Movick	Federated States of Micronesia
Dr. Mareko Tofinga	Samoa
Mr. Pita Taufatofua	Tonga
To be identified	Vanuatu
To be identified	Papua New Guinea

The expert should have a university degree or equivalent by experience. In addition, he/she should have at least 10 years experience in field of agriculture, rural development or social / economic sciences. He/she must have in-depth knowledge of the agricultural sector in his/her country and be able to identify key players and institutions / organisations active in this area. The ability to communicate and write clearly in English is essential, while knowledge of at least one of the local languages for communication / interview purposes is an added advantage.

9. Implementation schedule (CTA)

- Preparation/Finalisation of ToR; Identification/ short-listing of (potential) consultants; Call for offers (15 September – 10 November)
- Selection of consultants: (11 – 15 November)
- Contractual arrangements/ briefing (16 November – 10 December)
- Start date of contract: 11 December 2003
- Implementation period 11 December 2003 – 9 April 2004
- End date of contract: 10 April 2004

10. Key documents to be made available to consultants

Documents include:

- Cotonou Framework Agreement
- Excerpts of relevant sections of CTA's Strategic Plan and Plan of Action (2001-2005)
- Annual Reports
- Documents on priority information themes identified for the Caribbean & Pacific region
- Documents on products & services provided by CTA

[3] Final list of countries to be confirmed by 31/01/04.

11. Role of Regional Coordinator

- Attend briefing meeting at CTA
- Review the terms of reference
- Finalise questionnaires and methodological approach after due consultation with CTA Team
- Draw up briefing notes and guidelines for local consultants to ensure accurate and consistent application of the agreed methodology in data collection
- Responsibility for the implementation of the study and interpretation of technical queries to local consultants
- During the study, monitor and provide technical assistance to the local consultants
- Review preliminary country reports and findings and send comments back to local consultants
- Coordinate and ensure consistency of country reports
- In conjunction with the CTA Team, prepare the overall report taking into account the findings and recommendations of all the Pacific country reports (table of contents to be agreed by 31/01/04).

12. Role of Local Consultants

- Familiarise themselves with background documents received from CTA; including the Terms of Reference
- Conduct interviews and gather in countries specified in the contract
- Undertake field visits in countries specified in the contract
- Draft initial country reports and send to Regional Coordinator for initial comments
- Based on comments received from Coordinator, revise country reports and send draft report to CTA
- Finalise country reports based on comments and observations received from CTA and send back to CTA

13. Role of CTA (Overall coordination CWE, assisted by TVI)

- Establish contacts with the Regional Coordinator and the ACP Local Consultants
- Draw up Terms of Reference and other relevant documents
- Invite the Regional Coordinator for Briefing Meeting
- In consultation with the Regional Coordinator, draft questionnaires
- Provide relevant background documents to the Team
- Draft budget and discuss contractual obligations with the Team
- Overall responsibility for the supervision and implementation of the studies
- Appoint the Regional Coordinator and the ACP Local Consultants
- Bear the agreed costs of expenditure in respect of the evaluation (economy class tickets for approved visits to CTA's Headquarters, hotel accommodation and subsistence allowances during briefing meeting, or during agreed and specified field visits)
- In conjunction with the Regional Coordinator, prepare the overall report taking into account the findings and recommendations of all the Pacific country reports (table of contents to be agreed by 31/01/04).

ANNEX 2: COUNTRY PROFILE

Annex 2.1. General Agricultural Profile

2.1.1 Size of Agricultural Population (male/female/youth)

Table 1. Total Household Population Enumerated, by Age Group and Sex, by Region

Region	Age Group								
	All Age Groups			Under 15 Years			15 Years and Over		
	Total	Male	Female	Total	Male	Female	Total	Male	Female
Total	**178,804**	**92,936**	**85,868**	**74,676**	**39,171**	**35,506**	**104,093**	**53,738**	**50,355**
Apia Urban Area	36,762	19,042	17,720	14,305	7,532	6,774	22,432	11,485	10,947
North West Upolu	56,077	28,978	27,099	23,276	12,393	10,883	32,801	16,574	16,227
Rest of Upolu	41,534	21,708	19,826	18,164	9,522	8,642	23,370	12,186	11,184
Savaii	44,431	23,208	21,223	18,931	9,724	9,207	25,490	13,493	11,997

Table 2. Total Population of Agriculturally Active Household by Sex and Location of Household

Region	Age Group								
	All Age Groups			Under 15 Years			15 Years and Over		
	Total	Male	Female	Total	Male	Female	Total	Male	Female
Samoa	**143,937**	**75,313**	**68,624**	**61,067**	**32,244**	**28,823**	**82,870**	**43,069**	**39,801**
Apia Urban Area	15,818	8,285	7,533	6,256	3,370	2,886	9,562	4,915	4,647
North West Upolu	44,566	23,321	21,245	18,723	10,182	8,541	25,843	13,139	12,704
Rest of Upolu	40,511	21,161	19,350	17,771	9,296	8,475	22,740	11,865	10,875
Savaii	43,042	22,546	20,496	18,317	9,396	8,921	24,725	13,150	11,575

Table 3. Total Population of Fishing Households by Age group and Sex, by Location of Household

Region	Age Group								
	All Age Groups			Under 15 Years			15 Years and Over		
	Total	Male	Female	Total	Male	Female	Total	Male	Female
Total	**49,857**	**25,934**	**23,923**	**22,041**	**11,224**	**10,817**	**27,816**	**14,710**	**13,106**
Apia Urban Area	2,680	1,389	1,291	1,194	574	620	1,486	815	671
North West Upolu	10,314	4,999	5,315	4,772	2,271	2,501	5,542	2,728	2,814
Rest of Upolu	13,972	7,492	6,480	6,136	3,265	2,871	7,836	4,227	3,609
Savaii	22,891	12,054	10,837	9,939	5,114	4,825	12,952	6,940	6,012

Source: Samoa Agricultural Survey, 2002: Department of Statistics (DOS) and the Ministry of Agriculture, Forests, Fisheries and Meteorology (MAFFM), Samoa.

2.1.2 Farmed Land, Forests, Fishing Areas

Table 1. Number of holdings by size of holdings by region

Region	Size of holdings (in areas)								
	Total	Less than 1 acre	1.00 – 1.99	2.00 – 4.99	5.00 – 9.99	10.00 – 19.99	20.00 – 49.99	50.00 – 99.99	100 and over
Total	**17,829**	**1,477**	**1,976**	**5,080**	**3,976**	**3,045**	**1,680**	**422**	**173**
Apia Urban	2,074	535	411	655	189	121	78	34	51
Area	5,422	600	858	2,008	1,108	598	174	33	44
North West	5,134	238	451	1,451	1,213	1,057	582	131	12
Upolu	5,200	104	257	965	1,466	1,269	847	225	67
Rest of Upolu									
Savaii									

Table 2. Area of Holdings by Size of Holdings by Region

Region	Size of holdings (in areas)								
	Total	Less than 1 acre	1.00 – 1.99	2.00 – 4.99	5.00 – 9.99	10.00 – 19.99	20.00 – 49.99	50.00 – 99.99	100 and over
Total	**190,961**	**665**	**2,546**	**15,843**	**26,150**	**39,489**	**46,239**	**27,369**	**32,662**
Apia Urban Area	23,235	233	497	1,818	1,206	1,417	2,507	1,994	13,563
North West Upolu	34,788	267	1,149	6,106	7,089	7,463	4,765	2,343	5,605
Rest of Upolu	52,563	110	552	4,705	7,907	13,916	14,739	9,211	1,423
Savaii	80,375	54	347	3,214	9,948	16,692	24,228	13,821	12,071

Table 3. Number of Parcels by Size of Parcel by Region

Region	Size of holdings (in areas)							
	Total	0.00 – 0.49	0.50 – 0.99	1.00 – 1.99	2.00 – 4.99	5.00 – 9.99	10.00 – 19.99	20.00 and over
Total	**38,414**	**3,383**	**4,570**	**7,226**	**13,237**	**5,297**	**2,882**	**1,818**
Apia Urban Area	3,334	632	681	708	731	283	120	179
North West Upolu	9,419	1,100	1,262	2,138	3,115	1,087	489	228
Rest of Upolu	11,869	986	1,320	2,055	4,169	1,913	915	510
Savaii	13,792	665	1,307	2,325	5,223	2,014	1,358	900

Table 4. Area of Parcels by Size of Parcels by Region

Region	Size of holdings (in areas)							
	Total	0.00 – 0.49	0.50 – 0.99	1.00 – 1.99	2.00 – 4.99	5.00 – 9.99	10.00 – 19.99	20.00 and over
Total	**190,961**	**846**	**2,417**	**8,498**	**37,207**	**31,396**	**31,885**	**78,712**
Apia Urban Area	23,235	158	366	823	1,895	1,734	1,199	17,061
North West Upolu	34,788	275	666	2,556	8,482	6,606	5,249	10,954
Rest of Upolu	52,563	246	681	2,377	12,121	11,042	10,103	15,993
Savaii	80,375	166	704	2,742	14,709	12,014	15,334	34,705

Table 5. Area of Parcels (in areas) by Type of Land Tenure by Region

Region	Size of holdings (in areas)							
	Total	Customary Land	Leased Customary Land	Leased Government Land	Owned Freehold Land	Leased Freehold Land	Others	Not Stated
Total	**190,961**	**169,557**	**2,194**	**4,787**	**10,154**	**2,218**	**1,534**	**517**
Apia Urban Area	23,235	18,978	229	1,348	2,115	157	350	59
North West Upolu	34,788	26,645	1,749	2,450	1,828	2,061	54	0
Rest of Upolu	52,563	46,042	130	584	5,524	0	282	0
Savaii	80,375	77,892	85	405	686	0	849	457

Table 6. Area of Parcels (in areas) by Main Land Use Classification by Region

Region	Size of holdings (in areas)								
	Total	Land Under Tree Crops	Land Under Other Crops	Land Under Tree Crops and Other Crops	Land Under Fallow	Land Under Virgin Bush	Land Under Non-Agricultural Use	Others	Not Stated
Total	**190,961**	**27,828**	**6,913**	**131,847**	**1,082**	**2,264**	**6,255**	**14,350**	**422**
Apia Urban Area	23,235	1,666	170	11,914	45	449	1,013	7,903	76
North West Upolu	34,788	2,338	1,240	28,810	22	108	2,018	251	0
Rest of Upolu	52,563	7,173	3,799	36,454	667	256	525	3,688	0
Savaii	80,375	16,651	1,703	54,669	348	1,451	2,698	2,508	345

Table 7. Estimated Single Crop Equivalent Area (acres) by Crop Type by Region

Type of Crops Grown	Region				
	Total	Apia Urban Area	North West Upolu	Rest of Upolu	Savaii
Total	**79,974**	**5,173**	**18,513**	**34,874**	**21,415**
Coconut	35,726	2,023	6,718	17,652	9,333
Cocoa	9,828	322	3,313	2,288	3,905
Taro	10,911	887	3,180	4,089	2,755
Taamu	4,945	409	1,207	1,228	2,101
Cassava	82	3	29	21	29
Kava	673	115	36	108	413
Banana	17,809	1,414	4,030	9,487	2,879

Source: Samoa Agricultural Survey, 2004. Department of Statistics (DOS) and the Ministry of Agriculture, Forests, Fisheries and Meteorology (MAFFM), Samoa.

2.1.3 Agricultural Systems

Table 1. Number of Households by Level of Agricultural Activity by Region

Region	Level of Agricultural Activity					
	Total	Non Agricultural	Minor Agricultural	Home Consumption Only	Mainly for Home Consumption	Commercial Producers
Total	**23,277**	**4,561**	**887**	**9,498**	**7,057**	**1,274**
Apia Urban	5,356	2,876	407	1,600	388	86
Area	7,106	1,325	359	3,000	2,074	347
North West	5,336	166	36	2,317	2,319	498
Upolu	5,478	193	85	2,581	2,276	343
Rest of Upolu						
Savaii						

Table 2. Number of Holdings by Level of Agricultural Activity by Region

Region	Level of Agricultural Activity			
	Total	Home Consumption Only	Mainly for Home Consumption	Commercial Producers
Total	**17,829**	**9,498**	**7,057**	**1,274**
Apia Urban	2,074	1,600	388	86
Area	5,422	3,000	2,074	347
North West	5,134	2,317	2,319	498
Upolu	5,200	2,581	2,276	343
Rest of Upolu				
Savaii				

Table 3. Number of Parcels by Level of Agricultural Activity by Region

Region	Level of Agricultural Activity			
	Total	Home Consumption Only	Mainly for Home Consumption	Commercial Producers
Total	**38,414**	**19,385**	**16,160**	**2,868**
Apia Urban Area	3,334	2,421	721	192
North West Upolu	9,419	5,325	3,541	553
Rest of Upolu	11,869	4,942	5,633	1,293
Savaii	13,792	6,697	6,265	830

Table 4. Number of Holdings Growing crops by Type of Crops Grown by Region

Region	Type of Crop Grown																	
	Total	Coconut	Cocoa	Taro	Taro Palagi	Taamu	Yam	Cassava	Kava	Banana	Tomato	Cabbage	Egg Plant	Beans	Cucumber	Pumpkin	Avocado	Breadrfruit
Total	**17,812**	**16,326**	**12,935**	**16,126**	**6,386**	**14,077**	**11,847**	**1,782**	**2,605**	**16,340**	**4,051**	**1,584**	**3,111**	**3,383**	**3,139**	**3,080**	**2,171**	**16,459**
Apia Urban Area	2,065	1,478	995	1,680	586	1,318	1,025	171	147	1,895	355	218	241	361	210	261	305	1,807
North West Upolu	5,422	4,801	4,051	4,606	2,455	4,150	3,835	523	260	5,193	1,651	652	1,358	1,412	1,075	1,205	836	5,107
Rest of Upolu	5,134	4,991	3,421	4,884	1,758	4,065	3,470	345	547	4,718	979	416	618	677	868	690	570	4,790
Savaii	5,191	5,056	4,469	4,956	1,586	4,544	3,517	743	1,651	4,533	1,248	298	894	933	986	925	459	4,755

Table 5. Number of Holdings Growing Crops for Home Consumption only by Type of Crops Grown by Region

Region	Type of Crop Grown																	
	Total	Coconut	Cocoa	Taro	Taro Palagi	Taamu	Yam	Cassava	Kava	Banana	Tomato	Cabbage	Egg Plant	Beans	Cucumber	Pumpkin	Avocado	Breadrfruit
Total	**9,480**	**8,485**	**6,260**	**8,192**	**2,704**	**7,184**	**5,686**	**884**	**1,105**	**8,746**	**1,412**	**499**	**1,271**	**1,344**	**959**	**1,092**	**995**	**8,821**
Apia Urban Area	1,592	1,107	711	1,259	397	1,010	784	120	70	1,490	181	97	156	247	97	173	208	1,412
North West Upolu	3,000	2,618	2,031	2,423	1,087	2,260	1,935	295	152	2,913	499	174	554	478	336	413	381	2,913
Rest of Upolu	2,317	2,245	1,401	2,127	617	1,758	1,295	119	190	2,103	249	95	190	249	202	154	178	2,103
Savaii	2,572	2,515	2,117	2,384	603	2,156	1,672	350	693	2,240	483	134	370	370	324	351	228	2,392

Table 6. Number of Households Growing Crops Mainly for Sale by Type of Crops Grown by Region

Region	Type of Crop Grown																	
	Total	Coconut	Cocoa	Taro	Taro Palagi	Taamu	Yam	Cassava	Kava	Banana	Tomato	Cabbage	Egg Plant	Beans	Cucumber	Pumpkin	Avocado	Breadrfruit
Total	**1,274**	**1,194**	**1,005**	**1,211**	**544**	**940**	**995**	**109**	**196**	**1,081**	**560**	**220**	**287**	**416**	**557**	**411**	**195**	**1,122**
Apia Urban Area	86	78	51	78	34	25	42	8	8	61	18	0	0	18	17	18	10	59
North West Upolu	347	304	271	325	163	250	304	11	33	336	250	141	98	217	195	152	87	293
Rest of Upolu	498	498	368	475	214	380	392	24	60	427	131	59	95	95	202	107	59	475
Savaii	343	314	315	333	134	285	258	66	96	256	162	19	95	86	143	134	39	295

Table 7. Number of Households Growing Crops by Type of Crops Partly for Sale and Partly for Home Consumption by Region

Region	Type of Crop Grown																	
	Total	Coconut	Cocoa	Taro	Taro Palagi	Taamu	Yam	Cassava	Kava	Banana	Tomato	Cabbage	Egg Plant	Beans	Cucumber	Pumpkin	Avocado	Breadrfruit
Total	**7,057**	**6,646**	**5,670**	**6,723**	**3,138**	**5,953**	**5,166**	**789**	**1,303**	**6,513**	**2,079**	**866**	**1,554**	**1,623**	**1,622**	**1,577**	**981**	**6,516**
Apia Urban Area	388	293	233	344	155	282	199	42	68	344	156	121	85	96	96	69	87	336
North West Upolu	2,074	1,879	1,748	1,857	1,205	1,641	1,596	217	76	1,944	902	337	706	717	543	640	369	1,901
Rest of Upolu	2,319	2,247	1,652	2,283	927	1,927	1,783	202	298	2,188	417	262	333	333	464	428	332	2,212
Savaii	2,276	2,228	2,037	2,239	850	2,104	1,587	327	862	2,037	604	145	477	477	519	440	193	2,068

Source: Samoa Agricultural Survey, 2002. Department of Statistics (DOS) and the Ministry of Agriculture, Forests, Fisheries and Meteorology (MAFFM), Samoa.

2.1.4 Agriculture in the Economy

Table 1. GDP by industrial origin, 1996 – (tala million)

Gross Domestic Product at market prices by Industry (current prices) – '000Tala

Sector	1996	1997	1998	1999	2000	2001[2]	2002[1]
Agriculture	59,930	77,008	67,341	59,028	59,243	51,022	56,180
Fishing	45,045	54,353	54,677	56,399	64,795	70,967	70,957
Food & Beverage manufacturing	29,851	31,047	27,726	28,908	28,403	26,303	31,390
Other manufacturing	73,038	72,791	70,834	76,565	88,913	109,706	100,236
Construction	39,825	44,949	44,094	45,979	55,705	59,592	48,701
Electricity & Water	14,266	14,781	15,432	15,874	23,059	25,477	27,075
Commerce	78,468	92,178	105,777	121,256	138,041	154,707	176,492
Hotels, restaurants	13,850	14,390	15,530	16,790	18,130	21,050	23,110
Transport and Communications	59,473	65,782	78,436	87,378	98,315	116,797	128,185
Public administration	48,100	54,550	61,169	64,410	67,104	68,769	71,813
Finance & Business service	33,968	38,850	45,849	49,447	52,544	59,348	66,730
Less: Enterprise share of FISIM	-2,950	-3,246	-3,880	-4,430	-4,918	-5,774	-5,855
Ownership of dwelling	21,646	24,076	26,633	28,716	29,730	31,840	33,141
Personal & other dwellings	41,011	43,761	49,042	52,585	55,724	59,893	62,292
Value Added at Market Prices	555,520	625,271	658,660	698,904	774,788	849,697	890,446

Gross Domestic Product at market prices by Industry (constant 94 prices) – '000 Tala

Sector	1996	1997	1998	1999	2000	2001[2]	2002[1]
Agriculture	89,566	77,344	75,813	74,907	75,338	66,117	60,091
Fishing	44,002	47,504	53,263	49,659	49,648	53,139	50,577
Food & Beverage manufacturing	29,674	29,477	24,165	24,322	23,333	22,564	25,617
Other manufacturing	70,619	64,746	58,157	59,109	66,216	77,802	70,170
Construction	36,961	39,481	37,627	38,860	47,203	49,139	40,367
Electricity & Water	16,307	16,891	16,755	16,338	17,639	20,667	24,669
Commerce	72,750	79,413	85,505	92,350	100,805	109,350	120,399
Hotels, restaurants	13,238	12,656	12,672	12,984	13,783	15,293	16,531
Transport and Communications	57,384	59,652	66,530	70,724	78,404	87,954	93,914
Public administration	50,066	54,713	59,491	63,551	67,541	70,605	75,235
Finance & Business service	32,739	34,942	38,819	40,155	42,239	46,117	50,920
Less: Enterprise share of FISIM	-2,835	-2,862	-3,154	-3,407	-3,729	-4,169	-4,144
Ownership of dwelling	20,806	21,225	21,653	22,089	22,534	22,988	23,452
Personal & other dwellings	39,571	40,252	41,917	42,722	45,380	48,631	50,818
Value Added at Market Prices	570,848	575,435	589,214	604,363	646,334	686,631	698,617

[1]-provisional estimates Source: Samoa Statistical Services Division Report, Ministry of Finance, 2002.
[2]-revised estimates

2.1.5 Main Agricultural Produce

Table 1. Coconut: Sale – Number of Households Selling Coconuts, Quantity and Value of Last Sale by Region

Region	Sale of Young and Matured Coconut and Copra									
	Total Household Reporting	Young Coconut			Matured Coconut			Copra		
		Number of Households	Quantity Sold	Value (in Tala)	Number of Households	Quantity Sold	Value (in Tala)	Number of Households	Quantity Sold	Value (in Tala)
Total	**2,665**	**315**	**25,793**	**28,771**	**1,864**	**1,005,029**	**587,440**	**494**	**32,661**	**144,366**
Apia Urban Area	103	34	2,712	2,712	59	49,081	9,730	0	0	0
North West Upolu	694	109	8,688	7,907	477	216,608	375,685	108	23,716	56,588
Rest of Upolu	1,233	107	11,288	10,671	996	624,601	154,671	130	6,296	29,821
Savaii	635	66	6,083	4,502	331	114,739	47,354	255	2,649	57,958

Table 2. Coconut: Consumption – Number of Households Consuming Coconuts, Quantity and Weekly Average Consumption by Region

Region	Consumption of Young and Matured Coconuts									
	Total Household Reporting	For Drinking			For Cooking			For Feeding Animals		
		Number of Households	Total Weekly Average	Weekly Average	Number of Households	Total Weekly Average	Weekly Average	Number of Households	Total Weekly Average	Weekly Average
Total	**17,261**	**8,192**	**80,861**	**10**	**17,261**	**729,972**	**42**	**13,280**	**2,127,788**	**160**
Apia Urban Area	1,812	738	5,863	8	1,812	43,049	24	711	75,032	106
North West Upolu	5,324	2,368	22,836	10	5,324	301,476	57	3,519	359,384	102
Rest of Upolu	4,896	2,662	28,122	11	4,896	163,205	33	4,408	746,564	169
Savaii	5,228	2,425	24,040	10	5,228	222,242	43	4,642	946,809	204

Table 3. Cocoa: Sale and Consumption – Number of Households Selling and/or Consuming Cocoa by Quantity and Value of Last Sale (STala) and Average Weekly Consumption by Region

Region	Sale and Consumption of Cocoa						
	Total Household Reporting	Sale of Cocoa			Consumption of Cocoa		
		Number of Households	Quantity Sold	Value (in Tala)	Number of Households	Total Weekly Average	Weekly Average
Total	**14,266**	**1,894**	**61,122**	**310,178**	**12,372**	**42,999**	**3**
Apia Urban Area	975	86	3,191	9,339	889	1,801	2
North West Upolu	4,694	717	33,401	211,546	3,977	10,395	3
Rest of Upolu	3,576	452	8,639	22,778	3,124	11,126	4
Savaii	5,022	640	15,891	66,515	4,382	19,677	4

Table 4. Banana: Sale and Consumption – Number of Households Selling and/or Consuming Banana by Quantity and Value of Last Sale (Stala) and Average Weekly Consumption by Region

Region	Sale and Consumption of Banana					
	Sale of Banana			Consumption of Banana		
	Number of Households	Quantity Sold	Value (in Tala)	Number of Households	Total Weekly Average	Weekly Average
Total	2,682	52,827	452,633	18,079	57,999	3
Apia Urban Area	**165**	**3,913**	**45,296**	**2,667**	**6,073**	**2**
North West Upolu	**12,493**	**27,473**	**228,869**	**5,925**	**21,501**	**4**
Rest of Upolu	**584**	**10,801**	**89,901**	**4,635**	**13,979**	**3**
Savaii	**685**	**10,641**	**88,567**	**4,850**	**16,446**	**3**

Table 5.Taro: Sale and Consumption – Number of Households Selling and/or Consuming Taro by Quantity and Value of Last Sale (STala) and Average Weekly Consumption by Region

Region	Sale and Consumption of Taro					
	Sale of Taro			Consumption of Taro		
	Number of Households	Quantity Sold	Value (in Tala)	Number of Households	Total Weekly Average	Weekly Average
Total	4,672	691,761	2,042,816	15,507	583,013	38
Apia Urban Area	**172**	**37,793**	**46,802**	**1,943**	**51,899**	**27**
North West Upolu	**836**	**181,759**	**393,260**	**4,240**	**149,470**	**35**
Rest of Upolu	**2,031**	**66,571**	**932,877**	**4,445**	**181,777**	**41**
Savaii	**1,632**	**405,638**	**669,877**	**4,879**	**199,867**	**41**

Table 6. Taro Palagi: Sale and Consumption – Number of Households Selling and/or Consuming Taro Palagi by Quantity and Value of Last Sale (STala) and Average Weekly Consumption by Region

Region	Sale and Consumption of Taro Palagi					
	Sale of Taro Palagi			Consumption of Taro Palagi		
	Number of Households	Quantity Sold	Value (in Tala)	Number of Households	Total Weekly Average	Weekly Average
Total	752	27,697	126,392	3,399	31,474	9
Apia Urban Area	**61**	**780**	**5,804**	**384**	**2,876**	**7**
North West Upolu	**391**	**8,297**	**62,985**	**1,381**	**11,961**	**9**
Rest of Upolu	**131**	**7,471**	**12,653**	**856**	**7,650**	**9**
Savaii	**170**	**11,149**	**44,951**	**778**	**8,987**	**11**

Table 7.Taamu: Sale and Consumption – Number of Households Selling and/or Consuming Taro Palagi by Quantity and Value of Last Sale (STala) and Average Weekly Consumption by Region

Region	Sale and Consumption of Taamu					
	Sale of Taamu			Consumption of Taamu		
	Number of Households	Quantity Sold	Value (in Tala)	Number of Households	Total Weekly Average	Weekly Average
Total	1,381	107,371	426,051	9,619	25,082	3
Apia Urban Area	**48**	**13,158**	**16,815**	**852**	**1,637**	**2**
North West Upolu	**239**	**39,977**	**62,514**	**2,855**	**6,707**	**2**
Rest of Upolu	**320**	**9,659**	**57,419**	**2,311**	**5,606**	**2**
Savaii	**775**	**44,576**	**289,303**	**3,602**	**11,132**	**3**

Table 8. Number of Households which Report Livestock by Type of Livestock

Region	Type of Livestock kept					
	Sale of Taamu			Consumption of Taamu		
	Total	Pigs	Breeding Sows	Goats	Chickens	Others
Total	18,958	13,954	10,426	204	16,195	58
Apia Urban Area	**2,790**	**1,347**	**711**	**34**	**2,284**	**25**
North West Upolu	**5,773**	**3,846**	**2,487**	**33**	**4,881**	**11**
Rest of Upolu	**5,062**	**4,112**	**3,208**	**71**	**4,337**	**12**
Savaii	**5,334**	**4,649**	**4,020**	**66**	**4,692**	**9**

Table 9. Number of Livestock Kept by Type of Livestock by Region

Region	Livestock kept				
	Pigs	Breeding Sows	Goats	Chickens	Others
Total	224,306	40,179	2,312	516,175	3,095
Apia Urban Area	**12,611**	**1,938**	**449**	**63,662**	**2,602**
North West Upolu	**38,768**	**7,296**	**347**	**170,851**	**369**
Rest of Upolu	**72,193**	**14,244**	**1,131**	**140,996**	**12**
Savaii	**100,734**	**16,701**	**384**	**140,666**	**112**

Table 10. Pigs: Number of Households Raising Kept, Slaughtered and Sold Live, by Region

Region	Total	Kept as of Time of Visit		Slaughtered During the Reference Period				Sold Live	
	Households Reporting	Households Reporting	Number Kept	Households Reporting	Sold	Consumed	Faalavelave	Households Reporting	Number Sold Live
Total	13,954	13,864	224,306	9,021	5,398	26,138	25,082	1,727	11,252
Apia Urban Area	**1,347**	**1,339**	**12,611**	**508**	**305**	**1,064**	**1,150**	**78**	**1,261**
North West Upolu	**3,846**	**3,802**	**38,768**	**1,955**	**651**	**3,952**	**4,224**	**434**	**1,530**
Rest of Upolu	**4,112**	**4,112**	**72,193**	**3,065**	**3,543**	**8,476**	**8,438**	**582**	**2,586**
Savaii	**4,649**	**4,611**	**100,734**	**3,494**	**899**	**12,646**	**11,271**	**633**	**5,875**

Table 11. Chickens: Number of Households Raising Chickens, Number Kept, Slaughtered and Sold Live, by Region

Region	Total	Kept as of Time of Visit		Slaughtered During the Reference Period				Sold Live	
	Households Reporting	Households Reporting	Number Kept	Households Reporting	Sold	Consumed	Faalavelave	Households Reporting	Number Sold Live
Total	16,195	16,140	516,175	11,850	5,834	98,990	62,794	1,857	27,173
Apia Urban Area	**2,284**	**2,284**	**63,662**	**1,422**	**280**	**12,107**	**3,977**	**148**	**1,944**
North West Upolu	**4,881**	**4,860**	**170,851**	**3,608**	**2,023**	**34,684**	**13,620**	**674**	**13,264**
Rest of Upolu	**4,337**	**4,314**	**140,996**	**3,482**	**2,685**	**27,426**	**16,585**	**535**	**3,705**

Region	Total	Kept as of Time of Visit		Slaughtered During the Reference Period				Sold Live	
	Households Reporting	Households Reporting	Number Kept	Households Reporting	Sold	Consumed	Faalavelave	Households Reporting	Number Sold Live
Savaii	**4,692**	**4,682**	**140,666**	**3,337**	**846**	**24,773**	**28,613**	**501**	**8,260**

Table 12. Pigs: Number of Households Raising Pigs and Number Kept, by Size of Pig Holding by Region

Region	Total Households	Number Kept, by Size of Pigs Holding (Number of Pigs)							
		Total	1	2	3	4	5 - 9	10 - 19	20 and over
Total	**13,864**	**224,306**	**1,333**	**2,166**	**2,329**	**2,915**	**15,473**	**44,803**	**155,288**
Apia Urban Area	1,339	12,611	361	409	280	407	1,330	2,642	7,181
North West	3,802	38,768	543	1,043	913	1,219	4,466	10,837	19,747
Upolu	4,112	72,193	333	428	820	761	4,541	13,869	51,439
Rest of Upolu	4,611	100,734	95	285	316	528	5,135	17,454	76,921
Savaii									

Table 13. Number of Households Keeping Chickens and Number Kept, by Size of Chicken Holding by Region

Region	Total Households	Number Kept, by Size of Chicken Holding (number of chickens)					
		Total	1	2	3	4	5 - 9
Total	**16,195**	**516,175**	**137**	**180**	**487**	**828**	**7,819**
Apia Urban Area	2,284	63,662	8	34	182	68	1,220
North West Upolu	4,881	170,851	55	65	98	391	2,311
Rest of Upolu	4,337	140,996	36	24	36	142	1,786
Savaii	4,692	140,666	38	57	172	228	2,502

Table 14. Number of Households Engaged in Fishing by Number of People by Sex and by Region

Region	Total Households	Sex		
		Total	Male	Female
Total	**5,744**	**9,666**	**8,302**	**1,364**
Apia Urban Area	343	471	446	25
North West Upolu	1,108	1,555	1,315	240
Rest of Upolu	1,698	2,315	2,231	84
Savaii	2,595	5,325	4,310	1,015

Table 15. Number of Fishing Households, Amount of Seafood Caught Eaten, Sold and/or Given Away (Estimated Value in $Tala)

Region	Total Households	Amount of Seadfood Caught				Amount of Seafood Eaten				Amount of Seafood Sold/Given Away			
		Deep Water Fish	Tuna/Pelagic fish	Reef Fish	Figota Fish	Deep Water Fish	Tuna/Pelagic Fish	Reef Fish	Figota Fish	Deep Water Fish	Tuna/Pelagic Fish	Reef Fish	Figota Fish
Total	**5,580**	**56,081**	104,362	**234,535**	355,576	**5,882**	**8,613**	123,340	**97,816**	**50,199**	**95,749**	**111,195**	**257,760**
Apia Urban Area	334	1,455	2,581	14,125	1,407	1,309	1,865	8,627	1,093	146	716	5,498	314
North West Upolu	1,065	868	12,697	44,070	39,617	597	2,065	27,290	9,023	271	10,632	16,780	30,594
Rest of Upolu	1,615	28,113	77,353	77,353	13,186	2,087	2,411	38,744	8,562	26,026	74,715	38,609	4,624
Savaii	2,566	25,645	98,987	98,987	301,366	1,889	2,272	48,679	79,138	23,756	9,686	50,308	222,228

Table 16. Number of Fishing Households, Amount of Seafood Bought/Received Eaten, Sold and/or Given Away (Estimated Value in $Tala)

Region	Total Households	Amount of Seadfood Bought or Received				Amount of Seafood Eaten				Amount of Seafood Sold/Given Away			
		Deep Water Fish	Tuna/Pelagic fish	Reef Fish	Figota Fish	Deep Water Fish	Tuna/Pelagic Fish	Reef Fish	Figota Fish	Deep Water Fish	Tuna/Pelagic Fish	Reef Fish	Figota Fish
Total	**10,844**	**78,838**	**107,855**	**225,03**	**27,221**	**71,24**	**62,856**	**161,59**	**18,031**	**7,595**	**44,999**	**63,440**	**9,190**
Apia Urban Area	3,103	49,006	56,148	**4**	5,365	**3**	21,161	**4**	2,695	492	34,987	45,418	2,670
North West Upolu	3,331	9,572	15,743	90,415	6,255	48,51	13,606	44,997	4,628	1,790	2,137	9,253	1,627
Rest of Upolu	2,057	14,071	19,311	72,110	4,565	4	15,794	62,857	3,854	3,855	3,517	3,180	711
Savaii	2,353	6,189	16,653	27,538	11,036	7,782	12,295	24,358	6,854	1,458	4,358	5,589	4,182
				34,971		10,21		29,382					
						6							
						4,731							

Table 17. Total Household Using Chemicals

Region	Using Chemicals		
	Total	Yes	No
Total	**17,829**	**7,959**	**9,870**
Apia Urban Area	2,074	533	1,541
North West Upolu	5,422	2,443	2,979
Rest of Upolu	5,133	2,972	2,161
Savaii	5,200	2,011	3,189

Table 18. Total Households Planting any Forest Tree(s)

Region	Type of Forest Trees								
	Asi	Ifilele	Malili	Talie	Tava	Titi	Poumuli	Mahoki	Others
Total	**1,208**	**1,229**	**1,018**	**1,018**	**1,834**	**1,037**	**16,559**	**881**	**147**
Apia Urban Area	97	69	44	44	131	94	3,047	70	10
North West Upolu	119	163	109	109	250	207	5,253	163	11
Rest of Upolu	238	321	297	297	380	297	4,136	238	12
Savaii	753	675	569	569	1,073	439	4,123	409	114

Source: Samoa Agricultural Survey, 2002. Department of Statistics (DOS) and the Ministry of Agriculture, Forests, Fisheries and Meteorology (MAFFM), Samoa.

2.1.6 Main Export Markets

Table 1. Destination of exports, 1986-93 (per cent of total)

	1986	1987	1988	1989	1990	1991	1992	1993
Pacific	66.5	71.7	63.4	62.6	75.8	90.8	93.6	87.4
New Zealand	30.3	37.0	27.5	34.5	33.5	52.3	44.8	51.6
Australia	21.3	19.5	16.5	8.7	11.3	15.2	15.0	12.1
American Samoa	8.0	9.3	7.1	9.5	21.3	14.6	25.6	17.4
Other	6.9	5.9	12.3	9.9	9.7	8.6	8.2	6.3
North America	9.3	13.3	4.7	9.0	5.8	9.1	6.4	12.6
United States	9.3	13.3	4.7	9.0	5.8	9.1	6.4	12.6
Canada	-	-	-	-	-	-	-	-
Europe	24.2	14.9	29.8	27.9	18.2	0.1	-	-
Germany[a]	21.3	14.9	29.5	23.2	18.2	0.1	-	-
United Kingdom	0.5	-	-	1.1	-	-	-	-
Netherlands	2.0	-	0.3	3.6	-	-	-	-
Others	0.4	-	-	-	-	-	-	-
Asia	-	0.1	2.1	0.5	0.2	-	-	-
Japan	-	0.1	0.4	0.4	0.2	-	-	-
Other	-	-	1.7	0.1	-	-	-	-
Total	100	100	100	100	100	100	100	100

[a]Data prior to 1991 comprise the former Federal Republic of West Germany only.**Sources:** World Bank, *Toward Higher Growth in Pacific Island Economies: Lessons from the 1980s*, vol. 2, Country Surveys, 1991, Washington D. C; World Bank, *Pacific Island Economies: Toward efficient and sustainable growth*, vol. 8, Western Samoa, 1993, Washington D. C.

2.1.7 Trade agreements that include agriculture

Samoa is a member to a number of regional and international trade agreements. These include:

- **SPARTECA**

  South Pacific Regional Trade and Economic Corporation Agreement, provides access to New Zealand and Australian markets at reduced duty.

- **Cotonou Agreement**

  The provisions for market under LOME IV still apply for a transitional period of up to 2008. This agreement permits products 'originating' in the ACP states to be exported to the EU free of customs duty and other similar charges.

- **GSP**

  Generalized System of Preferences provides access to US and other developed countries at reduced duty.

- PICTA

  Pacific Island Countries trade Agreement establishes a Free Trade Area among the 14 Forum Island Countries.

- **PICTA**

  Pacific Island Countries Trade Agreement establishes a Free Trade Area among the 14 Forum Island Countries.

- **PACER**

  Pacific Agreement on Closer Economic Relations provides a framework for strengthening trade and economic cooperation among all Forum members at an appropriate 'pace', reflecting the differing developments status of the Members.

- **WTO**

  Samoa is currently an observer in the World Trade Organisation and is in the process of accession in to the organisation.

These agreements all have conditions attached by the donor countries and reference should be directed to the Department of Trade, Commerce and Industry for current details.

Source: Fairbairn, T (1994). The Western Samoa Economy, Paving the Way for Sustainable Growth and Stability. National Capital Printing, Canberra.

2.1.8 Sectoral policy related to agriculture, fisheries and forests

The following policies related to agriculture, fisheries and forests are being pursued by the government of Samoa (Fairbair, 1993).

1. Government priority must be to develop Samoa's growth potential and ensure sustainable growth (Western Samoa, Government of 1992).

2. A vigorous effort to promote high-value, non-traditional export products is to be pursued.

3. A key "policy" is to raise the level of productivity in the large traditional small-holder sector.

4. Industrialisation must be pursued with caution to avoid the establishment of high-cost non-competitive industries.

5. Sectoral policy must, at all times, embrace the environmental aspects of development to ensure that natural resources are used in a sustainable manner.

6. Forestry policy is now aimed at fostering resource regeneration, pursuing sustainable yield practices, and establishing a forestry sector that can once again provide significant yield practices, and establishing a forestry sector that once again provide significant value added from timber and other by-products.

7. Current development policies focus on the need to revive this sector and to reduce the present heavy dependence on imported products.

Source: Fairbairn, T (1994). The Western Samoa Economy, Paving the Way for Sustainable Growth and Stability. National Capital Printing, Canberra.

Annex 2.2 Socio-economic profile

2.2.1 Total active population, demographic breakdown

Table 1. Total active population, demographic breakdown

Social development indicator	Reference period (1980 – 1985) Western Samoa	Most recent estimate (1992) Western Samoa	Lower middle-income Samoa	Low income countries
POPULATION AND VITAL STATISICS				
Total Population (‘000)	157	162	942547	3191000
Urban population (% of total population	21.8	22.9	57.0	27.0
Average annual growth of population (%)	0.14	0.55	1.4	1.7
Population estimate for year 2000 (‘000)	0.14	169	1055000	3654000
Population estimate for year 2025 (‘000)	0.14	173	1422000	5062000
Population age structure (%): 0 – 14 yrs[a]	42.7	n.a.	n.a.	35.4
15-64 yrs	53.7	n.a.	61.3	60.6
65 yrs and above[a]	3.2	n.a.	n.a.	4.0
Life expectancy at birth (years)	63	65	68	62
Infant mortality (per 1000 live births)[b]	37	25	45	73
Under 5 mortality rate (per 1000)[b]	46	29.9	59.0	108.0
Total fertility rate (number)	5.5	4.5	3.1	3.4
FOOD, HEALTH AND NUTRITION				
Cereal imports (‘000 tonnes)	14	12	74924	44437
Food Production per capita (1987 = 100)[a]	102	75	101	119
Population per physician (number)[a]	2476	4818	2230	6760
per nurse (number)[a]	406	n.a.	1050	2150
per hospital bed (number)	229	n.a.	516	n.a.
Access to safe water (% of population)	69	82	n.a.	n.a.
Urban areas[a]	75	100	78	n.a.
Rural areas[a]	67	77	47	n.a.
EDUCATION				
Primary school enrolment (%)[a]				
Total	n.a.	136	100	101
Female	n.a.	n.a.	97	93
Secondary school enrolment (%)[a]				
Total	n.a.	26	56	41
Female	n.a.	n.a.	57	35
Tertiary enrolment (%)[a]	n.a.	n.a.	16	3
Adult literacy rate (%)	n.a.	98	74	60
ENERGY				
Annual energy consumption per head (kg oil equivalent)	n.a.	432	1882	338

Note: The ratio for the primary school enrolments could exceed 100 per cent because of the possibility of enrolment by persons outside the age group designated as primary school-age population.
[a]For low income and lower-middle income economies, the most recent estimate refers to 1991.
[b]The reference period refers to 1986.
[c]For low income and lower-middle income economies, the most recent estimate refers to 1990.

Sources: World Bank, Social Indicators of Development, 1993 and 1994, Washington D.C.; World Bank, World Development Report 1993 and 1994, Washington D.C.; Australian International Development and Assistance Bureau, Western Samoa, Country Program Paper, 1993, Canberra.

Table 2. Key Indicators of Developing Asian and Pacific Countries: Samoa.

Item	1985	1990	1995	1998	1999	2000	2001	2002
Population								
Total population[a] thousand; as of 1 July	159.5	160.3	164.4	166.9	167.7	170.7	176.8	177.7
Population density persons per square kilometre	57	57	59	60	60	61	63	63
Population annual change, %	0.6	0.5	0.5	0.5	0.5	1.8	3.6	0.5
NATIONAL ACCOUNTS[b] *Mn Tala; calendar year*								
At current Market Prices								
GDP by industrial origin	191.2	258.8	495.6	658.7	698.9	774.8	849.7	890.4
Agriculture	…	…	91.8	122.0	115.4	124.0	122.0	127.1
Mining	…	…	-	-	-	-	-	…
Manufacturing	…	…	95.8	98.6	105.5	117.3	136.0	131.6
Electricity, gas and water	…	…	13.5	15.4	15.9	23.1	25.5	27.1
Construction	…	…	37.3	44.1	46.0	55.7	59.6	48.7
Trade	…	…	76.0	121.3	138.0	156.2	175.8	199.6
Transport and communications	…	…	50.7	78.4	87.4	98.3	116.8	128.2
Finance	…	…	29.0	45.8	49.4	52.5	59.3	66.7
Public Administration	…	…	45.8	61.2	64.4	67.1	68.8	71.8
Others	…	…	58.5	75.7	81.3	85.5	91.7	95.4
Less: Imputed bank service charge	…	…	2.7	3.9	4.4	4.9	5.8	5.9
Structure of Output *% of GDP at current prices*								
Agriculture	…	…	18.5	18.5	16.5	16.0	14.4	14.3
Industry	…	…	29.6	24.0	23.9	25.3	26.0	23.3
Services	…	…	52.5	58.1	60.2	59.3	60.3	63.1
Expenditure on GDP	191.2	258.8	495.6	658.7	698.9	774.8	849.7	890.4
Private Consumption	172.5	…	…	…	…	…	…	…
Government Consumption	34.5	…	…	…	…	…	…	…
Gross fixed capital formation }	54.3	…	…	…	…	…	…	…
Increase in stocks }	…	…	…	…	…	…	…	…
Exports of goods and services	59.4	101.8	…	…	…	…	…	…
Less: Imports of goods and services	129.5	219.3	…	…	…	…	…	…
Structure of Demand *% of GDP at current prices*								
Private Consumption	90.2	…	…	…	…	…	…	…
Government consumption	18.0	…	…	…	…	…	…	…
Gross domestic capital formation	28.4	…	…	…	…	…	…	…
Exports of goods and services	31.1	39.3	…	…	…	…	…	…
At Constant 1984* I *1994 Prices								
GDP by industrial origin	192.0	182.6 1	532.1	589.2	604.4	646.3	686.2	698.6
Agriculture	…	… 1	129.5	129.1	124.6	125.0	119.3	110.7
Mining	…	… 1	-	-	-	-	-	-
Manufacturing	…	… 1	95.7	82.3	83.4	89.5	100.4	95.8
Electricity, gas and water	…	… 1	15.2	16.8	16.3	17.6	20.7	24.7
Construction	…	… 1	35.9	37.6	38.9	47.2	49.1	40.4
Trade	…	… 1	75.0	98.2	105.3	114.6	124.6	136.9
Transport and communications	…	… 1	50.1	66.5	70.7	78.4	88.0	93.9
Finance	…	… 1	28.6	38.8	40.2	42.2	46.1	50.9
Public Administration	…	… 1	46.7	59.5	63.6	67.5	70.6	75.2
Others	…	… 1	58.2	63.6	64.8	67.9	71.6	74.3
Less: Imputed bank service charge	…	… 1	2.7	3.2	3.4	3.7	4.2	4.1
Growth of Output *annual change, %*								
GDP	6.0	-7.5	6.6	2.4	2.6	6.9	6.2	1.8
Agriculture	…	…	12.7	3.4	-3.5	0.3	-4.6	-7.2
Industry	…	…	1.8	-9.2	1.4	11.4	10.2	-5.5
Services	…	…	6.4	7.8	5.5	7.6	8.2	7.6
Expenditure on GDP	192.0	182.6	532.1	589.2	604.4	646.3	686.2	698.6
Private consumption	152.5	…	…	…	…	…	…	…
Government consumption	31.6	…	…	…	…	…	…	…

Item	1985	1990	1995	1998	1999	2000	2001	2002
Gross fixed capital formation	49.9	…	…	…	…	…	…	…
Increase in stocks	…	…	…	…	…	…	…	…
Exports of goods and services	71.8	…	…	…	…	…	…	…
Less: Imports of goods and Services	113.8	…	…	…	…	…	…	…
Growth of Consumption and Investment *annual change, %*								
Private Consumption	-1.7	…	…	…	…	…	…	…
Government Consumption	5.0	…	…	…	…	…	…	…
Gross domestic capital formation	-6.7	…	…	…	…	…	…	…
At Current Market Prices, *Tala*								
Per capita GDP	1199	1614	3014	3948	4168	4538	4806	5011
PRODUCTION *thousand metric tons; calendar year*								
Agriculture, crop year								
1. Coconut	178	138	130	130	120	140	140	140
2. Copra	23	17	11	7	6	4	…	…
Production Indexes *period averages*								
Agriculture, 1989-91 = 100	121.9	101.4	88.3	97.4	96.6	101.5	102.9	104.4
Manufacturing, 1982 1 1997 = 100[0]	125.4	118.1	127.8 1	96.3	102.2	105.1	112.2	114.4
ENERGY *annual values*								
Electricity, *Mn KWh*								
Production	35	50	66	83	85	91	105	124
Consumption	30	50	66	68	68	70	79	86
PRICE INDEXES *period averages*								
Consumer (country), 1980 1 Dec. 1998 = 100	202.6	298.3	353.4 1	100.6	100.9	101.8	105.7	114.3
Food[d]	200.2	296.4	319.0 1	101.8	100.8	100.7	105.8	118.1
Non-food	206.0	300.5	402.5 1	78.9	100.9	103.1	106.0	…
Implicit GDP deflator, *1984* 1 *1994 = 100*	99.6	141.7 1	93.1	111.8	115.6	119.9	123.8	127.5
Price Indexes *annual change, %*								
Consumer price index	9.1	15.3	-2.9	…	0.3	0.9	3.8	8.1
Food price index	9.8	20.2	-6.9	…	-1.0	-0.1	5.0	11.6
Implicit GDP deflator	-0.4	12.5	-6.9	2.9	3.4	3.7	3.3	3.0
MONEY AND BANKING[e] *Mn Tala; as of end of period*								
Money supply (M1)	19.5	47.3	60.9	66.5	80.3	93.3	86.9	95.6
Currency in circulation	8.4	12.9	21.6	24.8	29.1	28.9	30.0	32.6
Demand deposits[f]	11.1	34.4	39.3	41.7	51.2	64.4	56.9	63.0
Quasi-money[g]	32.4	73.7	107.3	148.8	168.9	196.7	220.8	240.4
Money supply (M2)	51.9	121.0	168.2	215.3	249.2	290.0	307.7	336.0
Money supply (M2) *annual change, %*	21.3	19.2	21.8	7.5	15.7	16.4	6.1	9.2
M2 *% of GDP*	27.1	46.8	33.9	32.7	35.7	37.4	36.2	37.7
Interest Rates *percent p.a.; period averages*								
On deposits[h]								
Savings	7.2	5.9	3.0	3.0	3.0	3.0	3.0	2.8
Time 6 months	13.3	8.5	6.5	6.5	6.5	6.4	6.4	5.8
12 months	15.3	9.2	7.5	7.5	7.5	7.4	7.3	6.4
GOVERNMENT FINANCE *Thousand Tala; fiscal year ending 31 December 1 30 June*								
Central Government								
Total revenue and grants	97710	171570 1	217400	234450	267910	251020	262450	290800
Total revenue	71170	125570 1	145000	173950	183770	194400	197360	198670
Current revenue[1]	71170	125570 1	145000	173950	183770	194400	197360	198670
Taxes	59520	91690 1	108900	137970	146450	156740	174830	182710
Non-taxes	11650	33880 1	36100	35980	37320	37660	22530	15960
Capital receipts[j]	…	… 1	…	…	…	…	…	…
Grants[k]	26540	46000 1	72400	60500	84140	56620	65090	92130
Total expenditure and net lending	…	…	1 252200	221550	265760	256220	281670	308580

Item	1985	1990	1995	1998	1999	2000	2001	2002
Total expenditure	102450	181210 1	196000	213360	249190	236810	267740	287480
Current expenditure	41890	68860 1	112400	142090	163950	169670	164630	183270
Capital expenditure	60560	112350 1	83600	71270	85240	67140	103110	104210
Net lending[l]	…	… 1	56200	8190	16570	19410	13930	21100
Current surplus/deficit	29280	56710 1	32600	31860	19820	24730	32730	15400
Capital account surplus/deficit	-60560	-112350 1	-83600	-71270	-85240	-67140	-103110	-104210
Overall budgetary surplus/deficit[m]	-4740	-9640 1	-34800	12900	2150	-5200	-19220	-17780
Financing								
Domestic borrowing (net)	2270	-10840 1	22800	-16010	-5780	3670	17560	5987
Foreign borrowing (net)	2470	20480 1	12200	3120	3640	1520	1660	11790
Use of cash balances	-	- 1	…	…	…	…	…	…
Government Finance *% of GDP*								
Total revenue	37.2	48.5	29.3	26.4	26.3	25.1	23.2	22.3
Total expenditure	53.6	70.0	39.6	32.4	35.7	30.6	31.5	32.3
Overall budgetary surplus/deficit	-2.5	-3.7	-7.0	2.0	0.3	-0.7	-2.3	-2.0
Expenditure by Function, Central Government								
Total[n]	34110	… 1	112400	142100	164000	169600	164700	183300
General public services	10174	… 1	23600	39000	47600	50000	42000	47500
Defence	…	… 1	6500	11300	11900	12500	14100	14100
Education	7765	… 1	21900	32000	35100	37200	37300	41500
Health	5798	… 1	14700	24800	27700	30200	29200	34400
Social security and welfare	…	… 1	4500	6800	7600	8000	9000	10500
Housing and community amenities	…	… 1	…	…	…	…	…	…
Economic services	6326	… 1	39000	36900	40500	37800	39100	428900
Agriculture	1442	… 1	7800	9000	9500	9900	9500	10900
Industry	…	… 1	…	…	…	…	…	…
Electricity, gas and water	…	… 1	…	…	…	…	…	…
Transport and communications	2516	.. . 1	1200	2400	2700	1800	1200	700
Other economic services[o]	2368	… 1	30000	25500	28300	26100	28400	31300
Others[p]	4047	… 1	2200	-8700	-6400	-6100	-6000	-7700
EXTERNAL TRADE[q] *Thousand Tala; calendar year*								
Exports, fob[f]	36195	20494	21674	55521	54735	44808	52691	46284
Imports, cif	115074	186120	228041	285652	348381	348687	448801	454227
Trade balance	-78879	-165626	-206367	-230131	-293646	-303879	-396110	-407943
Exports, by SITC section								
Food and live animals	5372	…	…	…	…	…	…	…
Beverage and tobacco	2137	…	…	…	…	…	…	…
Crude materials excl. fuels	…	…	…	…	…	…	…	…
Mineral fuels, etc.	…	…	…	…	…	…	…	…
Animal, vegetable oil and fats	…	…	…	…	…	…	…	…
Chemicals	…	…	…	…	…	…	…	…
Basic manufactures	…	…	…	…	…	…	…	…
Machines, transport equipment	…	…	…	…	…	…	…	…
Miscellaneous manufactured goods	…	…	…	…	…	…	…	…
Unclassified goods	…	…	…	…	…	…	…	…
Exports, by principal commodity								
1. Banana	28	3	655	163	408	420	150	177
2. Beer	390	860	1130	2120	2840	2710	2930	3920
3. Cocoa	2356	502	-	…	…	…	…	…
4. Coconut cream	2830	5580	4840	3520	4550	3620	3840	3100
5. Copra	954	1101	2193	5684	4909	2294	780	…
6. Fresh fish	-	-	430	25510	32600	24700	36000	29030
7. Garments	-	-	10	10	-	4270	5490	4450
8. Taro	5113	3502	162	113	432	716	814	1000
9. Timber	817	21	208	4	20	26	-	12

Item	1985	1990	1995	1998	1999	2000	2001	2002
Imports, by SITC section								
Food and live animals	26800	…	…	…	…	…	…	…
Beverage and tobacco	2400	…	…	…	…	…	…	…
Crude materials excl. fuels	800	…	…	…	…	…	…	…
Mineral fuels, etc.	19400	…	…	…	…	…	…	…
Animal, vegetable oil and fats	800	…	…	…	…	…	…	…
Chemicals	5700	…	…	…	…	…	…	…
Basic manufactures	21300	…	…	…	…	…	…	…
Machines, transport equipment	27100	…	…	…	…	…	…	…
Miscellaneous manufactured goods	8200	…	…	…	…	…	…	…
Unclassified goods	2600	…	…	…	…	…	…	…
Direction of Trade *Mn US dollars; calendar year*								
Exports, Total	27.26	11.64	60.31	73.11	63.88	67.83	78.43	78.66
1. Australia	2.88	1.75	50.77	35.80	37.66	38.91	47.83	46.86
2. United States	16.19	0.81	0.55	19.36	6.91	7.27	8.73	7.09
3. Indonesia	…	…	…	0.01	3.34	8.24	8.90	8.42
4. Germany	1.33	1.62	1.00	3.13	2.73	1.22	1.45	1.78
5. New Zealand	5.23	3.91	3.72	2.00	2.36	1.61	1.11	1.61
6. American Samoa	1.05	1.05	0.84	1.24	1.31	1.51	1.67	1.81
7. Algeria	…	…	-	5.37	0.23	0.28	0.30	0.29
8. Netherlands	0.18	0.66	-	0.61	1.80	0.44	0.01	-
9. Belgium	…	…	…	1.45	0.47	-	-	-
10. Thailand	-	-	-	-	0.13	2.68	0.10	0.02
Imports, total	50.73	82.99	143.50	146.17	161.33	270.97	269.24	181.16
1. Australia	-	9.01	27.53	23.72	23.54	73.98	35.34	28.53
2. New Zealand	16.20	26.10	50.44	32.74	37.12	37.64	46.64	42.96
3. United States	3.03	8.02	8.14	10.67	12.76	70.73	77.11	7.70
4. Fiji Islands	1.92	1.46	9.50	25.39	26.84	30.86	33.95	36.84
5. Japan	8.34	7.26	29.77	16.65	20.43	23.88	27.25	22.58
6. Korea, Republic of	-	-	2.64	2.64	3.96	6.62	3.93	4.27
7. Czech Republic	…	…	-	14.85	0.77	0.20	0.22	0.24
8. Germany	0.90	4.16	1.13	1.74	8.15	0.82	1.17	0.75
9. United Kingdom	0.94	1.33	0.98	1.30	2.17	0.62	7.50	10
10. Indonesia	-	-	-	0.34	3.35	4.34	4.32	3.92
Trade Indexes *1982-88 1 1995-98 = 100; period averages*								
Quantum index								
Exports[s]	103 1	95	79	138	129	133	122	…
Imports	101 1	121	120	114	135	123	155	…
Unit value index								
Exports[s]	121 1	64	86	110	129	105	135	…
Imports	108 1	151	180	99	101	112	114	…
Terms of trade	112 1	42	48	111	128	94	118	…
BALANCE OF PAYMENTS *Mn US dollars; calendar year*								
Current account	1.9	8.6	8.2	14.8	5.3	10.3	-6.5	4.9
Balance on goods	-30.5	-61.3	-83.4	-78.2	-97.4	-92.8	-114.1	-120.9
Exports	16.1	8.9	8.8	18.9	18.3	13.8	15.1	13.7
Imports	-46.6	-70.2	-92.1	-97.1	-115.7	-106.6	-129.2	-134.6
Services and income	-2.7	16.0	31.3	33.4	36.6	41.2	44.0	45.8
Credit	11.0	42.4	59.0	62.7	64.0	66.0	66.3	70.4
Debit	-13.7	-26.3	-27.7	-29.3	-27.4	-24.8	-22.3	-24.6
Unrequited transfers	35.1	53.7	60.2	59.6	66.1	61.9	63.6	80.0
Private	…	…	35.2	37.3	41.6	44.5	42.6	55.7
Official	…	…	25.0	22.3	24.5	17.4	21.0	24.3
Capital account	…	…	…	…	…	…	…	…
Financial account	-0.6	8.1	-4.9	-5.3	-5.3	-9.3	3.1	4.6
Direct investment	…	…	…	…	…	…	…	…
Portfolio investment	…	…	…	…	…	…	…	…
Other long-term capital	-0.6	8.1	-4.9	-5.3	-5.3	-9.3	3.1	4.6
Other short-term capital	…	…	…	…	…	…	…	…

Item	1985	1990	1995	1998	1999	2000	2001	2002
Net errors and omissions	3.9	-5.7	…	…	…	…	…	…
Overall balance	5.2	11.0	3.3	9.5	0.0	1.0	-3.4	-9.5
Reserves and related items								
Monetary movements	-5.2	-11.0	-3.3	-9.5	-0.0	-1.0	3.4	-9.5
Balance of Payments % of GDP								
Exports	18.9	7.9	4.4	8.5	7.9	6.1	6.3	5.0
Imports	-54.7	-62.6	-46.0	-43.5	-49.9	-47.0	-53.8	-49.1
Trade balance	-35.8	-54.7	-41.6	-35.0	-42.0	-40.9	-47.5	-44.1
Current account balance	2.2	7.7	4.1	6.6	2.3	4.5	-2.7	1.8
Overall balance	6.1	9.8	1.6	4.3	0.0	0.4	-1.4	3.5
INTERNATIONAL RESERVES *Mn US dollars; as of end of period*								
Total	14.02	69.05	55.31	61.42	68.20	63.66	56.64	3.15
Foreign exchange	14.01	64.82	51.28	57.37	64.19	59.78	52.83	58.97
Reserve position in the Fund	0.00	0.04	1.00	0.96	0.94	0.89	0.86	0.94
SDRs	0.01	4.18	3.03	3.09	3.07	2.99	2.95	3.23
EXCHANGE RATES *Tala per US dolar*								
End of period	2.3063	2.3332	2.5272	3.0102	3.0184	3.3412	3.5512	3.2165
Average of period	2.2453	2.3099	2.4734	2.9477	3.0132	3.4130	3.5399	3.2457
EXTERNAL INDEBTEDNESS *Mn US dollar; as of end of year*								
Total debt outstanding and disbursed	76.1	92.0	170.4	180.1	192.4	197.4	204.3	…
Long-term debt	63.8	91.0	168.1	154.3	156.6	147.3	143.3	…
Public and publicly guaranteed	63.8	91.0	168.1	154.3	156.6	147.3	143.3	…
Private non-guaranteed	0.0	0.0	0.0	0.0	0.0	0.0	0.0	…
Short-term debt	1.4	0.2	2.3	25.8	35.8	50.1	61.0	…
Use of IMF credit	10.9	0.8	0.0	0.0	0.0	0.0	0.0	…
External debt *as % of GNI* 81.6	56.0	87.9	80.2	80.5	83.5	80.9	…	
Total long-term debt *as % of total debt*	83.8	98.9	98.7	85.7	81.4	74.6	70.1	…
Short-term debt *as % of total debt* …		1.8	0.2	1.3	14.3	18.6	25.4	29.9
Debt service *as % of exports of goods and services*	15.1	5.8	4.2	3.9	5.1	10.8	…	…
Debt service *Mn US dollars; transactions during the year*								
Principal repayments on long-term debt	3.6	3.3	3.0	2.8	3.3	4.2	3.5	5.2
Interest on long-term debt	1.7	1.2	1.6	1.4	1.4	1.4	1.3	1.2
Interest on short-term debt	0.1	0.0	0.1	0.8	1.7	2.9	2.6	…
Debt service *Mn US dollars; transactions during the year*								
Principal repayments on long-term debt	3.6	3.3	3.0	2.8	3.3	4.2	3.5	5.2
Interest on long-term debt	1.7	1.2	1.6	1.4	1.4	1.4	1.3	1.2
Interest on short-term debt	0.1	0.0	0.1	0.8	1.7	2.9	2.6	1.2
Average terms of new commitments								
Interest (% p.a.)	0.9	0.8	0.7	0.0	0.8	1.1	1.4	…
Maturity (% p.a.)	41.7	39.8	40.6	0.0	39.8	35.1	31.2	…
Grace period (years)	10.2	10.3	9.9	0.0	10.3	9.0	7.7	…
Grant element (%)	79.2	80.5	80.6	0.0	80.7	74.5	69.4	…

Footnotes:

Some footnotes apply only to the 18-year time series available on-line.

a. Assumes constant growth rates of 0.6 percent for 1985-1986 and 0.5 percent for 1987-1996.
b. Discontinuous series. Official national accounts started in 1994 following the completion of a technical assistance grant from the Asian Development Bank.
c. Refers to volume indices of industrial production.
d. Figures were revised back to 1994 to reflect new weights for taro and its substitute.
e. Data covers both the Bank of Western Samoa and the Pacific Commercial Bank Ltd. Up to December 1989, data reported were as of the last Wednesday of the month. This reporting date was changed to the last day of the month thereafter.
f. Excludes deposits of the government in the banking system.
g. Time deposits exclude deposits of the government.
h. Effective 15 September 1986, the rates for term deposits in excess of WS$20,000 and all rates for terms over six months have been opened to negotiation between a customer and his bank.
i. For 1985 to 1990, figures represent estimates of the Treasury Department and the Central Bank.

j. Includes development expenditure, net Treasury advances, and capital account.
k. Includes project and cash and commodity grants, all of which were assumed to be externally derived. 69
l. Includes net loans and advances to non-financial enterprises, capital subscriptions and land purchases. After 1983, net loans and advances to public enterprises and others are included in net Treasury advances while government purchases of shares are incorporated in the capital account.
m. Figures exclude non-budgetary surplus/deficit, hence the item refers to overall budgetary surplus/deficit. For 1985-1990, data on net lending are not available.
n. Refers to current expenditures.
o. Includes public works, labor, lands and survey, land and title.
p. Includes VAGST payable by Government Departments and residual, including interest payments on public debt. For 1994 to 1995, data include counterpart costs for Development expenditure which were generally of a current nature.
q. Excludes trade data for Yazaki and imports by foreign diplomatic missions to Western Samoa.
r. Beginning June 1991, exports were derived from Central Bank information.
s. Indices for exports exclude re-exports.

Source: Asian Development Bank 2003. Key indicators of developing Asian and Pacific Countries _ Samoa. http://www.adb.org/Documents/Books/Key_Indicators/2003/pdf/SAM.pdf

2.2.2 Literacy levels and languages

Literacy level is high in Samoa, about 80%(Fuatai, Pers. Comm. 2003; Annual Statistical Abstract, 2004; Annex 2). Language spoken are mainly English and Samoan(Fuatai, Pers. Comm. 2003).

2.2.3 Access to services (health, schools, electricity)

Access to services, example, health, schools and electricity is also good. There are many private clinics and schools in Samoa. Electricity is also available to much of the population (Ministry of Health, 2004; Annex2.2).

2.2.4 Rural urban drift

Urban drift is high, about 50% of the population is in Apia town (Annex 2.2). Most are school dropouts looking for work.

Annex 2.3 Media and Telecommunications

Table 1. Newspapers (Daily)

Name	Ownership	Circulation	Frequency of Development Articles	Agricultural	Internet availability	Outlets
Samoa Observer www.samoaobserver.ws	Private	180,000	Daily		Private shops, individuals, etc.	

Table 2. Newspapers (Weekly)

Name	Ownership	Circulation	Frequency of Development Articles	Agricultural	Internet availability	Outlets
Newsweek	Government	100,000	Weekly		Not available	Government depts; shops, etc.

Table 3. Periodicals

Name	Ownership	Circulation	Frequency of Development Articles	Agricultural	Internet availability	Outlets
Talanoa	Private	100,000	Monthly		Not available	Bookshops, shops

Table 4. Magazines

Name	Ownership	Circulation	Frequency of Development Articles	Agricultural	Internet availability	Outlets
Savali	Government	100,000	Fortnightly		Not available	Shops, government depts.

Table 5. Radio Stations

Name	Ownership	Broadcast hours	Frequency of Agricultural/Rural Development Programs	Reach of Stations
Broadcasting Dept.	Government	6.00 am – 12.00 pm	Daily	All parts of the country
Magic 98 FM	Private	6.00 am – 11.00 pm	Daily	All parts of the country
Radio Graceland	Private	6.00 am – 12.00 pm	None	All parts of the country
K-Lite 101.1 FM	Private	6.00 am – 9.10 pm	Daily	All parts of the country
K-Rock FM 96.1	Private	6.00 am – 6.05 pm	Daily	All parts of the country
Talofa 88.5 & 99.9 FM	Government	6.00 am – 12.00 pm	Daily	All parts of the country

Table 6. Television Channels

Name	Ownership	Broadcast hours	Frequency of Agricultural/Rural Development Programs	Reach of Stations
PRO-COM	BBC (Private)	6.00 am – 3.00 am	None	All parts of the country
STAR CABLE	TBN (Private)	2.00 am – 12.00 am	None	All parts of the country
SBC	Government	6.00 am – 12 midnight	Daily	All parts of the country

Source: Tofinga, M.P. (2004). Assessment of Agricultural Information Needs in Africa, Caribbean And Pacific (ACP) States: Phase1: Pacific (Samoa). Report for the Technical Center for Agricultural and Rural Cooperation, Netherlands.

Annex 2.3b: Telecommunication Service (Fixed, Mobile and Other)

Table 1.

Name	Ownership	Cost of 3 minute call		No. of Subscribers	Coverage of Phone networks
		(Fixed Phone)	(Mobile Phone)	(Fixed Networks)	(Mobile Networks)
Samoa Tel	Government	T3.00	T5.00	100,000	50,000
		Beyond urban areas			
Telecom Samoa Cellular	Private	-	T5.00	-	40,000
		Beyond urban areas			
Lesa's Telephone Services	Private	T3.00	T5.00	50,000	-
		Beyond urban areas			

Annex 2.3c: Computers and the Internet

Table 1. Number of Computers per 1000 People

There are about 200 computers per 1000 people in Samoa.

Table 2. Name of Internet Service Providers

Names:

Computer Services Limited (CSL)
Pacific Computers Limited (PCL)
Samoa.net (Samoa's Internet Service)
Cyber Booth Internet Café

Table 3. Number of Internet Subscribers

There are about 50,000 internet subscribers in Samoa.

Table 4. Cost of 10 hours dial-up Internet per Month (by company).

Samoa.ws Internet Services - $19.5

ANNEX 3: PROFILE OF INSTITUTIONS

3.1. List of all institutions involved in agriculture and rural development activities

Name and contacts	Type	Role
Institute of Research, Extension and Training in Agriculture USP. School of Agriculture, Alafua Campus, Samoa. Tel. (+685) 21882, Fax: (+685) 22347, Email: USPIRETA@samoa.usp.ac.fj or stevenson_j@samoa.usp.ac.fj	REG	EX
Samoa Department of Agriculture Nuu Research Station, Apia, Samoa. Tel: (+685) 22561, Fax: (+685) 23426,	GOV	RD
Lands, Survey and Environment Savalalo Market, Apia, Samoa. Tel: (+685) 22481, Fax: (+685) 23176	GOV	RG
Department of Women's Affairs Ministry of Women's Affairs, Apia, Samoa. Tel: (+685) 22421, Fax: (+685) 22539,	GOV	EX
Trade Commerce and Industry Department Ministry of Trade, Commerce and Industry, Apia, Samoa. Tel: (+685) 20471, Fax: (+685) 21646,	GOV	TM
Development Bank of Samoa Beach Road, Apia, Samoa. Tel: (+685) 22861, Fax: (+685) 23888	BNK	FS
South Pacific Regional Programme Vaitele, Apia, Samoa. Tel: (+685) 21929, Fax: (+685) 20231	REG	EX
Samoa Tropical Products PS-M Taufusi, Apia, Samoa. Tel: (+685) 21535, Fax: (+685) 23032	Private	PRV
Food and Agricultural Organisation. EX Matautu-uta, Samoa. Tel: (+685) 22377, Fax: (+685) 22126		REG

Name and contacts	Type	Role
Samoa Union of Non-Government Organisations, Apia, Samoa. Tel: (+685) 25987, Fax: (+685) 21933.	NGO	EX
USP. School of Agriculture, Alafua Campus, Apia, Samoa. Tel: (+685) 21671, Fax: (+685) 22933, Email: ebenebe_a@samoa.usp.ac.fj Or tofinga_m@samoa.usp.ac.fj	EDU	TR
L. Keil Holdings, P.O. Box 7, Apia, Samoa. Tel: (+685) 21337, Fax: (+685) 23731,	PRV	PS-M
Taro Breeders Club, Alafua, Samoa Tel: (+685) 21671, Fax: (+685) 22933, Email: Iosefa_t@samoa.usp.ac.fj		
Women-in-business, Apia, Samoa. Tel: (+685) 23329, Fax: (+685) 26527	NGO	RD
Malaefono Organic Plantation, Malaefono, Private Bag, Apia, Samoa. Tel: (+685) 24467, Fax: (+685) 24447.	PRV	PS-E

3.2 Select List of Key Institutions In Agriculture and Rural Development

1. Institute of Research, Extension and Training in Agriculture

- Objective/Mission Statement
  To carry out research, extension and training in Agriculture and rural development which ensure food security, social and economic development which are sustainable and environmentally friendly.

- Field of Specialisation
  All areas of agriculture and rural development but specialise in information acquisition, dissemination and management.

- Number of Staff
  Ten (10) including the Director

- Branches, Other Sites
  Twelve (12) "branches" in the 12 member countries of the University of the South Pacific, that is the Agricultural Liaison Officers.

- Annual Budget
  Varies from year to year, but about A$250,000.

- Source of funding, including main donors/sponsors
  University of the South Pacific, FAO, South Pacific Community, SPRAD, AUSAID.

- Programme/projects undertaken
  Numerous workshops, trainings and meetings. The following programme/projects have been undertaken (2004 only).
  (a) Organic farming workshop
  (b) Good governance workshop

- Target audience (plus number, actual or estimated)
  Farmers Administrators, academics, women's organisations, NGOs.

- How information needs are currently met, and from where or by whom
  Information needs are currently met from the SOA (e.g. Published research and other publications), overseas libraries (e.g. Inter-library loans), local libraries (e.g. Exchange of journals, newsletters etc.), CTA (workshops, publications etc), ADAP (newsletters etc.), APSA (e.g. Question and answer), ALO System (publish information from the region through IRETA and so on.

- Extent of interaction with CTA
  Seminars, consultants, publications, etc.

- Extent of collaboration/interaction with other institutions
  SOA – workshops, research, consultants, publications etc.
  FAO – workshops, consultants, publications, etc.
  SPC – information supply, workshops, donor.

- Main problems faced in terms of information and communications management
  Shortage of staff (also overworked)

Skills upgrading its needed
Video production

- Main information needs not satisfied
  Organic farming
  Soil taxonomy
  Crops and Livestock
  Fisheries
  Food Security

- Why institution selected as key

Voted best USP, Institute a few years back and still is.

2. USP School of Agriculture

- Objective/Mission Statement

  The SOA has the mission to assist in meeting the needs and improving the well being of the people of the South Pacific by:

  1. Providing high quality Agricultural Education to a wide range of people, directly through its teaching programmes and indirectly through its training of teachers and advisers.
  2. Executing relevant research that would adequately address existing as well as the long term agricultural needs of the region.
  3. Developing and adapting new technologies to improve food production and extend opportunities through balanced Rural Development that is sensitive to long-term community needs for resource conservation and sustainable development.
  4. Disseminating information throughout the region by face-to-face contact and by extensive use of print and electronic media through collaboration with the Institute of Research, Extension and Training in Agriculture (IRETA).

  A priority within agriculture has been identified, namely, "to actively promote agricultural education and training, reflecting both the importance of agriculture to the region and the benefits that USP offers to this sector."

- Field of specialisation

  The main overall field of specialisation is agriculture. There are however, four main areas of specialisation in agriculture namely:

  1. Crop Sciences includes crop production, crop protection, plant breeding and tissue culture.
  2. Animal Sciences – production, nutrition, integrated systems.
  3. Soil Science and Agricultural Engineering – soil fertility, soil physics, soil quality. Agricultural Engineering covers surveying, soil and water engineering and so on.
  4. Agricultural Education, Extension and Economics.

- Number of staff
  There are eleven academic staff. The total number of staff is about 50.

- Branches, other sites
  None.

- Annual budget
  One million dollars.

- Source of funding, including main donors/sponsors
  The SOA is funded mainly by the 12 member countries of the South Pacific. Main donors include Japan, Australia, New Zealand, EU, France, US and so on.

- Programme/projects undertaken

The following programmes are offered by the SOA.

1. Diploma in Tropical Agriculture (a two-year programme)
2. Bachelor of Agriculture Programme (a three-year programme)
3. Post-graduate Diploma in Agriculture (a one-year programme)
4. Master of Science programme (a two-year programme)
5. Doctor of Philosophy programme (a three to four-year programme)

- Target audience (plus numbers, actual or estimated).
  The following are the target audience of the SOA:

  1. Prospective students interested in an agricultural qualification (about 600).
  2. Teachers of agriculture at all levels (about 200).
  3. Farmers and agro-businesses.
  4. The rural communities.

- How information needs are currently met.
  The following are the sources of information in various subjects:

  1. FAO – farming systems, agricultural extension and education, crop and animal production.
  2. CTA – spore newsletter (general agriculture), books on soils, crops and livestock.
  3. SPC – plant protection, crop production.
  4. Overseas libraries – crop science, animal science, crop production, tissue culture.
  5. Local libraries – agricultural education and extension.
  6. IFOAM – organic farming.
  7. Regional agricultural departments – agriculture.

- Extent of collaboration with CTA.
  The SOA receive information from CTA, indirectly through IRETA. However, one staff member has attended several meetings organised by CTA.

- Extent of collaboration interaction with other institutions.
  These are the main partners the SOA collaborate with:

Main partners	Type of relationship	Strength of collaboration
IRETA	Information supply, workshops, Research, training, consultancy.	Very strong collaboration
SPC especially in	Information supply, workshops	Strong collaboration;
	Research, biodiversity conservation, plant protection training.	taro and other germplasm conservation
FAO	Information supply, workshops, consultancy.	Weak collaboration
SPREP	Research, workshops.	Weak collaboration
Samoa Polytechnic	Training	Weak collaboration
National University of Samoa	Training, workshops, seminars.	Strong collaboration
Ministry of Agriculture	Training, research, workshops, Information supply.	Strong collaboration

University of the West Indies	Information Supply.	Weak collaboration
Reading University	Training	Weak collaboration
Other overseas Universities	Training	Weak collaboration

- Main information and communication problems

1. Inadequate trained staff in the teaching areas, especially in crop protection (no pathologist) and crop physiology.
2. Inadequate trained staff in the library services, e.g. no degree level trained person – perhaps the salary offered is not attractive.
3. Lack of trained personnel in the use of computers and maintenance – staff are not trained in computer use and applications.

- Main information needs

1. Organic farming.
2. Agroforestry and mixed cropping.
3. Biotechnology.
4. Food Security and processing.
5. Floriculture.

- Why institution selected as key

This is the only university which trains the agricultural manpower of the 12 member countries and carried out research to solve some of the agricultural needs of the region.

3. USP School of Agriculture

- Objective/mission statement

The SOA has the mission to assist in meeting the needs and improving the well-being of the people of the South Pacific by:

1. Providing high quality agricultural education to a wide range of people, directly through its teaching programmes and indirectly through its training of teachers and advisers.
2. Executing relevant research that would adequately address existing as well as the long term agricultural needs of the region.
3. Developing and adapting new technologies to improve food production and extend opportunities through balanced rural development that is sensitive to long-term community needs for resource conservation and sustainable development.
4. Disseminating information throughout the region by face to face contact and by extensive use of print and electronic media through collaboration with the Institute of Research, Extension, and Training in Agriculture (IRETA).

A priority within agriculture has been identified, namely, " to actively promote agricultural education and training, reflecting both the importance of agriculture to the region and the benefits that USP offers in this sector.

- Field of specialisation.

The main overall field of specialisation is agriculture. There are however, four main areas of specialisation.

1. Crop Sciences includes crop production, plant breeding, crop protection and tissue culture.

2. Animal Sciences - production, nutrition, breeding and intergrated systems.
3. Soil Science and Agricultural Engineering - soil fertility, soil physics, soil quality. Agricultural Engineering covers surveying, soil and water engineering and so on.
4. Agricultural Education, Extension and Economics.

- Number of staff
  There are 11 academic staff. The total number of staff is about 50.

- Branches, other sites
  None.

- Annual budget
  One million tala.

- Source of funding, including main donors/sponsors
  The SOA is funded mainly by the 12 member countries of the South Pacific. Main donors include Japan, Australia, New Zealand, European Union, France, US,and so on.

- Programmes/projects undertaken
  The following programmes are offered by the SOA.
  1. Diploma in tropical agriculture (a two year programme).
  2. Bachelor of Agriculture (a three year programme).
  3. Post-graduate diploma in Agriculture (a one year programme).
  4. Master of Science programme (a two year programme).
  5. Doctor of Philosophy (a three to four year programme).

- Target audience (plus numbers, actual or estimated)
  The following are the target audiences of the SOA.
  1. Prospective students interested in an agricultural qualification, training (about 700).
  2. Teachers of agriculture at all levels (about 300).
  3. Farmers and agrobussinessess.
  4. The rural communities.

- How information needs are currently met.
  The are the sources of information in various subjects.
  FAO - farming systems, agricultural extension and education, crops and livestock.
  1. CTA - spore newsletter (general agriculture), books on soils, crops and livestock production.
  2. SPC - plant protection, crop production.
  3. Overseas libraries - crop sciences, animal sciences, crop production, tissue culture.
  4. Local libraries - agricultural education and extension.
  5. IFOAM - organic farming.
  6. Regional Agricultural departments - agriculture mainly.

4. Ministry of Agriculture (MOA)

- Objective/mission statement
  To build a strong, growing and sustainable primary production sector, leading to higher standards of living and better health for the Samoan people in a dynamic “faa samoa.”

- Field of specialisation
  1. Agriculture.

2. Extension and training.
3. Agricultural information services.
4. Research and development.

- Number of staff
  There are 31 staff members altogether.

- Branches, other sites
  1. Savai'i.
  2. Nafanua Agricultural Station.
  3. Outstations in rural areas number 11.

- Annual Budget
  The annual budget is T 716,250 for operations and personnel.

- Source of funding
  1. The government of Samoa is the main source.
  2. Australia (AUSAID) – donor.
  3. China – donor.
  4. Japan – donor.

- Programme/projects undertaken
  1. Visit rural communities to advise, train and disseminate information etc. to encourage rural development initiatives.
  2. Future farmers of Samoa Project.
  3. Partnership project (women groups, health department, women in business and NGOs).

- Target audience
  1. Farmers (subsistence) and farmer groups and commercial farmers and individuals (80% of population).
  2. Youth who dropped out from school (about 70% students).
  3. Women and disadvantaged groups (about 60% of population).

- How information needs are currently met
  1. Own research (crop and livestock production and other agricultural areas).
  2. USP, School of Agriculture Research (crop productions and protection, tissue culture, taro breeding, agroforestry, animal production).
  3. Internet – agricultural and related information.
  4. IRETA video tapes, training, publications, JOSPA, workshops etc. – mostly agricultural information.

- Extent of interaction with CTA
  Staff have attended CTA seminars, co-seminars and training programmes through IRETA.

- Extent of collaboration/interaction with other institutions (name, nature)
  1. SPREP – information.
  2. FAO – information and financial assistance.
  3. USP – information, tarogen programme (TIP), training, research.
  4. SPC – information, finance, training, workshops.
  5. Polytechnic – course on landscaping, training in business and management.
  6. AUSAID – information, training, finance.

7. NZ – information, training and finance.
   83
8. ISP (AUSAID) – Human resource capacity building.

- Main problems faced in terms of information and communication management
  1. Capacity building is needed in the areas of publications production; videos, radio programmes, TV programmes, (training needed), vernacular versions of programmes.
  2. Information Technology.
  3. Resources may not be available to do things.
  4. Training of staff on information acquisition and management.

- Main information needs not satisfied
  1. Organic farming.
  2. Presentation of research results in easily understood language.
  3. Marketing information.
  4. Post-harvest information.
  5. Value adding information.

- Why institution selected as key
  This institution is responsible for the improvement of agriculture (subsistence and commercial) and rural development in Samoa. The target groups form the backbone of the economy of Samoa and provide the livelihood (food etc.) for the country.

ANNEX 4. LIST OF INDIVIDUALS/INSTITUTIONS CONTACTED

1. Mr Mohammed Umar - Director, (IRETA)

   Address: USP/IRETA, Alafua Campus, Private Bag, Apia, Samoa.

   Tel: (+685) 21882, Fax: (+685) 22347, Email: USPIRETA@samoa.usp.ac.fj

2. Miss Atarina Samasoni - Information Officer (IRETA)
   Address: USP/IRETA, Alafua Campus, Private Bag, Apia, Samoa.
   Tel: (+685) 21882, Fax: (+685) 2247, Email: USPIRETA@samoa.usp.ac.fj

3. Mr Aaron Kama - Assistant to Head of School of Agriculture (Staffing)
   Address: USP. School of Agriculture, Alafua Campus, Private Bag, Apia, Samoa.
   Tel: (+685) 21671, Fax: (+685) 22933, Email: kama_a@samoa.usp.ac.fj

4. Mr Chris Nelson - Librarian, USP, School of Agriculture Library
   Address: House no. 6, Moamoatai, Private Bag, Apia, Samoa.
   Tel: (+685) 21671, Fax: (+685) 22933, Email: nelson_c@samoa.usp.ac.fj

5. Mr Poasa Nailuvula - M. Sc. (Crop Science) Student, USP, School of Agriculture (Fiji)
   Address: USP.School of Agriculture, Alafua Campus, Private Bag, Apia, Samoa.
   Tel: (+685) 21671, Fax: (+685) 22933, Email: Nauluvula_p@samoa.usp.ac.fj

6. Mr Ata Binoka - Final Year Bachelor of Agriculture Student (Kiribati)
   Address: USP. School of Agriculture, Alafua Campus, Apia, Samoa.
   Tel: (+685) 21671, Fax: (+685) 22933, Email: Binoka_a@samoa.usp.ac.fj

7. Mr Uatea Vave - First Year Bachelor of Agriculture Student
   Address: USP. School of Agriculture, Alafua Campus, Apia, Samoa.
   Tel: (+685) 21671, Fax: (+685) 22933, Email: Vave_u@samoa.usp.ac.fj

8. Ms Emele Ainuu - Assistant Chief Executive Officer, Agricultural Extension and Information Section
   Address: Nuu Research Station, Private Bag, Apia, Samoa.
   Tel: (+685) 22561, Fax: (+685) 23426,

9. Mr Siaosi Matalavea - Assistant Chief Executive Officer, Crops Research
   Address: Nuu Research Station, Private Bag, Apia, Samoa.
   Tel: (+685) 22561, Fax: (+685) 23426

10. Mr Tofa Eteuati Siitia - Assistant Chief Executive Officer, Quarantine Section
    Address: Quarantine Section, Wharf, Matautu, Apia, Samoa.
    Tel: (+685) 20924, Fax: (+685) 20171,

11. Dr Nacanieli Tuivavalagi - Non-government organisation (Agricultural Consultancy)
    Address: Vaimoso village, Private Bag, Apia, Samoa.
    Tel: (+685) 20072, Fax: 20938,

12. Mr Raymond Voight - Director, Samoa Union of Non-government organisations
    Address: Pesega village, Private Bag, Apia, Samoa.
    Tel: (+685) 20351,

13. Mr Richard Cook - Oganic farm owner and exporter of organic produce
    Address: Malaefono Organic Plantation, Private Bag, Apia, Samoa.
    Tel: (+685) 24467, Fax: (+685) 24447

14. Mr Ken Newton - Businessman and exporter of agricultural produce and other merchandise
Address: CCK Store, Apia, Samoa.
Tel: (+685) 20742, Fax: (+685) 24447

15. Ms Jacinta Godinet - Chief Librarian, Nelson Memorial Library
Address: Nelson Memorial Library, Beach Road, Apia, Samoa.
Tel: (+685) 23690,

16. Ms Melei - FAO Librarian
Address: Matautu-uta, Private Bag, Apia, Samoa.
Tel: (+685) 22377, Fax: (+685) 22126

17. Ms Ime Fuimaono - Director, Village Catholic Women's Association
Address: Catholic church, Lepea, Apia, Samoa.
Tel: (+685) 20985

18. Ms Shirley Kleis - Floriculturist (Orchids, etc.)
Address: Lepea, Private Bag, Apia, Samoa.
Tel: (+685) 24190

19. Mr Saipele Komiti - Loans Officer, Development Bank
Address: USP. Alafua Campus, Apia, Samoa.
Tel: (+685) 21671, Fax: (+685) 22933

20. Mr Oscar Isaia - Senior Officer, Computer Services Limited
Address: USP. School of Agriculture, Alafua Campus, Apia, Samoa.
Tel: (+685) 21671, Fax: (+685) 22933, Email:isaia_o@samoa.usp.ac.fj

21. Mr Sia Matalavea - President, Samoa Information Technology Society
Address: USP. School of Agriculture, Alafua Campus, Apia, Samoa.
Tel: (+685) 21671, Fax: 22933, Email: matalavea_s@samoa.usp.ac.fj

22. Ms Malvina Lober - Fisheries Department
Address: Fisheries Division, MAFFM, Apia, Samoa.
Tel: (+685) 22624, Fax: (+685)20857

23. L. Keil - Keil Holdings.
Address: P.O. Box 7, Apia, Samoa.
Tel: (+685) 21337, Fax: (+685) 23731,

24. G. Percival - Samoa Natural Foods International Ltd.
Address: Taufusi,Apia, Samoa
Tel: (+685) 21535, Fax: 23032

ANNEX 5. GLOSSARY

ACEO	Assistant Chief Executive Officer
ACP	Africa Caribbean and Pacific States
ADAP	Australian Development and Assistance Programme
ALO	Agricultural Liason Officers
ARDIN	Agricultural and Rural Development Network
CEO	Chief Executive Officer
CTA	Technical Centre for Agricultural and Rural Cooperation
FAO	Food and Agriculture Organisation
IRETA	Institute of Research, Extension and Training in Agriculture
ISP	Internet Service Provider
MAFFM	Ministry of Agriculture, Forests, Fisheries and Meteorology
MOA	Ministry of Agriculture
NPF	National Provident Fund
NGO	Non-Government Organisation
P&Cs	Planning and Coorporate Services
RRF	Regional Resource File
SCAINIP	Standing Committee on Agricultural Information Networking in the Pacific
SOA	School of Agriculture
SPC	Secretariat of the Pacific Community
SPDC	Special Project Development Cooporation
SPREP	South Pacific Regional Environment Programme
USP	University of the South Pacific

ANNEX 6. REFERENCES

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